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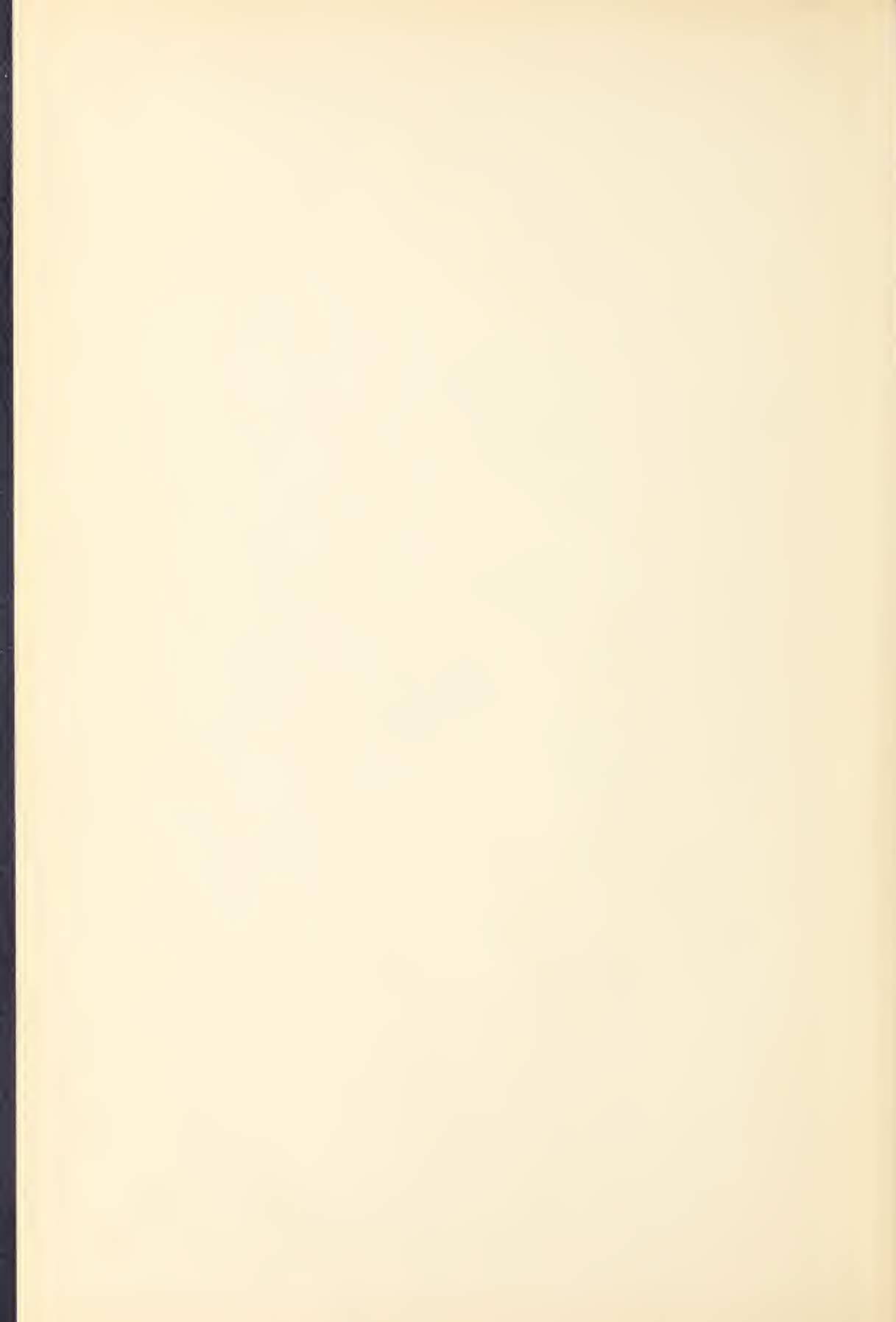


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SCENE OF THE EXECUTION OF JOHN YOUNG IN 1795

REMINISCENCES OF AN OLD NEW YORKER

BY PETER GASSNER

THESE interesting first-hand recollections of the youth of New York, and the country, of which even then it was beginning to be recognized as the metropolis, were found among a lot of old papers left by the writer when he died, a half century ago. It is not often that so clear and intimate a contemporary picture of those old times is to be had.—EDITOR.



THE earliest events that I can remember occurred in the end of 1795. New York contained about 40,000 inhabitants and the city did not extend much beyond the present site of the hospital, in Broadway. On both sides of Broadway, as far as the eye could reach to the north, hills of full fifty feet in height occupied the ground, now replaced with princely stores; it was a common country road, unpaved, and with lofty clay banks skirting it on each side, and crossed at Canal Street by a stone bridge.

An actor, named John Young, had shot an officer, about to arrest him for debt, in the Park. He was convicted of the murder and was hung upon the rising ground of

which I have spoken, about where the Carlton House is now, at the corner of Leonard Street and Broadway. This occurred in the end of 1795. I was then about two years old, but I distinctly remember the military in the streets and the departure of my father in his military costume to guard the execution. We lived at the corner of Pearl and Chatham Streets, where I was born, and from the roof of this house I saw, together with the family, the gallows and the crowd of people, there being at the time no house of any height to obstruct the view in the intervening space from Chatham Street to Broadway. Twenty years after this I slid down this hill, then called the "Bason" from Broadway to Orange Street. Hundreds of boys in winter would start their sleighs from the top, which, meeting the ice of the Collect Pond, would have impetus sufficient to carry

them half a mile from the start. This was play! As we had to trudge back on foot for a second ride, had we been desired to do it for any useful purpose, there was not one of us but would have refused.

Some two years after, there was a grand assemblage of military in the Park. For what purpose I do not know, but I remember my father raising me in his arms and calling my attention to a tall man on horse-back. I have always believed it was General Washington. If he were here in New York in 1797, then it was he; but I know without mistake that I saw from a window in Broadway the mock funeral of Washington, which took place on June 3d, 1800. The large urn, eagle, and inverted boots are as fresh before me now as if it occurred yesterday.

I also distinctly remember the murder of Elmore Sands, which occurred at this time. It made a great sensation in our little city. The girl had been missing some days when she was found in a deep well, which had been dug by the Manhattan Company to supply the city with pure, wholesome water, which, being surface water, of course must be pure.

This well was in what is now Spring Street, near Greene. There were no houses within half a mile of it; all south as far as Canal and Greenwich Streets was marshy land intersected by numerous creeks, where

hundreds of boys would catch small fish on non-school days. I've done it often.

People at that day were somewhat credulous and quite superstitious. Hideous noises, and screams were reported to have been heard and a form all in white and fire-balls to have been seen nightly. My father ridiculed all these things, but for all that I remember his being one of a party to watch all night for these things to appear. But they were not to be seen; an unbeliever was watching and they wouldn't come.

A couple of years after this I was sent to the Morristown Academy. I only mention this to show the difference in the means of locomotion and the change of places. Morristown is inland twenty-five miles from Powles Hook, now Jersey City. A small ferry-boat with two masts, called a pettiangar, would leave Cortlandt Street in the early morning. If the wind was fair the passage would be made in half an hour. But I have been three mortal hours in getting over. On landing, you trotted up the ascending ground to Major Hunt's tavern. This was an old-fashioned mansion, the roof descending from an immense peak to a large piazza which sheltered all the travelers to Philadelphia and other places. It was a starting-point and quite notorious for the urbanity of the host.

A stage would then start for Morristown at daybreak, which would arrive in the dusk



LAFAYETTE STREET NOW OLIVER STREET, IN 1808



FRANKLIN MARKET, OLD SLIP, IN 1820

of the evening. I believe three days were occupied in going to Philadelphia. Even as late as 1812, when I left New York for Philadelphia, a steamer carried me to Brunswick, then a stage to Trenton, where we lodged, and finally, after sailing on another steamer up the Delaware, we reached Philadelphia at noon.

One with a good memory is surprised at the great changes in the habits and the manners of the people. At this time, the beginning of the present century, almost every family would salt their own shad, pork, and beef for the winter's consumption. During shad time, piles from five to six feet high would lie before the doors, and hundreds of men, and women, too, would turn out and clean them on the sidewalk. Shad then sold for three dollars per hundred — better than can now be had for three dollars per dozen.

No good housekeeper ever thought of having his marketing sent home by the butcher. Every man who did not buy largely carried his own basket and was on the ground at daylight for choice cuts. The good old-fashioned porter with his shining brass plate designating his name and number is now obsolete. When the Fly Market, at the foot of Maiden Lane, and Oswego Market, at the head of Broadway, were in existence, some twenty of these sturdy porters with their wheelbarrows were always on hand to carry home the prog. Oswego Mar-

ket fronted on Broadway and extended nearly to Nassau Street. The Fly Market fronted on Pearl and ran down to the East River. An immense sewer disembogued through Maiden Lane, then a very narrow street, under the market, and during a summer shower the stream would have turned a mill. Alas! the Fly and Oswego Markets are gone. They will soon tear down the Old Bear. The present generation are removing all the old landmarks. Those who can remember them are moving on, too, alas! But man must bend to stern necessity and must "wait his going hence, as well as his coming here."

Every housekeeper was compelled to have two buckets for each fireplace. These were made of sole-leather, and the name and residence of the owner painted upon them. At a fire they were thrown on the walk and some citizen would carry them to the fire. Double lines of men would form from the pumps to the engines, and as one passed along the buckets of water the opposite line returned the empty buckets to be filled again. After a fire, it was quite a means of revenue for the boys to collect and carry home the buckets; a fee was always given and quite a strife would sometimes arise, for each would try to get the rich citizens' buckets.

A large fire occurred in Vesey Street about this time, 1800. The steeple of St. Paul's was on fire, and it would have been burned

but for a sailor who climbed the steeple and extinguished it. This made a great talk at the time. There was a famous well of water in Chatham Street, called the "Old Tea Water Pump." The surface water with which the city was supplied previous to the glorious Croton was very brackish, and a great number of the inhabitants of the city were supplied from this well, which, singu-

from Maiden Lane to John Street, and Broadway, from Fair Street (now Fulton) to Trinity Church, were occupied by retail stores. A few years after they left William Street and Broadway and moved to Pearl Street, beginning at Oak and running to Chatham, on both sides, to Doyer Street. Now Catherine and Canal Streets contain the greatest number, but they are also scat-



THE OLD HENRY COSTER HOUSE

larly enough, was soft spring water. Supplying the people with this water was quite a business, and hundreds of water-carts, or carts with hogsheads upon them, were constantly passing through the town. At this fire in Vesey Street, which occurred on Sunday, all the water-carts in the city were occupied in carrying water to it and they made quite a procession.

It was about 1803 that they began to build the present City Hall. The laying of the corner-stone, with Masonic ceremonies, was quite imposing; the military were in full parade and it made a holiday for the youngsters. It was always a godsend to us youngsters when anything occurred in the city so that the master would dismiss the school. The laying of the corner-stone, I remember, gave us one day, and the funeral of Hamilton, who was shot by Burr in a duel, about 1803, gave us another.

Nothing has changed so much in New York as the location of the retail dry goods stores. At this time (1803), William Street,

tered in all parts of the city. Catherine Street was then an unpaved street, with hills on both sides, extending from Henry (then Bancker) to the ferry to Brooklyn. Only one ferry crossed the East River to Brooklyn, which was then but a small village. A few houses clustered near the ferry, but the ground was vacant from Pierpont's residence to the Red Mills, now the position of the South Ferry.

It is not over a score of years since Broadway ended at Twenty-third Street and the Bowery at Union Square. The avenues were unknown and country roads succeeded the streets. Now the old State Prison and the House of Refuge, then in the suburbs, would be in the heart of the city. Ah, great changes indeed! Another score of years and but few living witnesses of these things will remain. The ancient landmarks and those who can remember them will pass down the string of time, forgetting and forgotten. Rather a gloomy reflection, so I will pass on to something more cheerful.

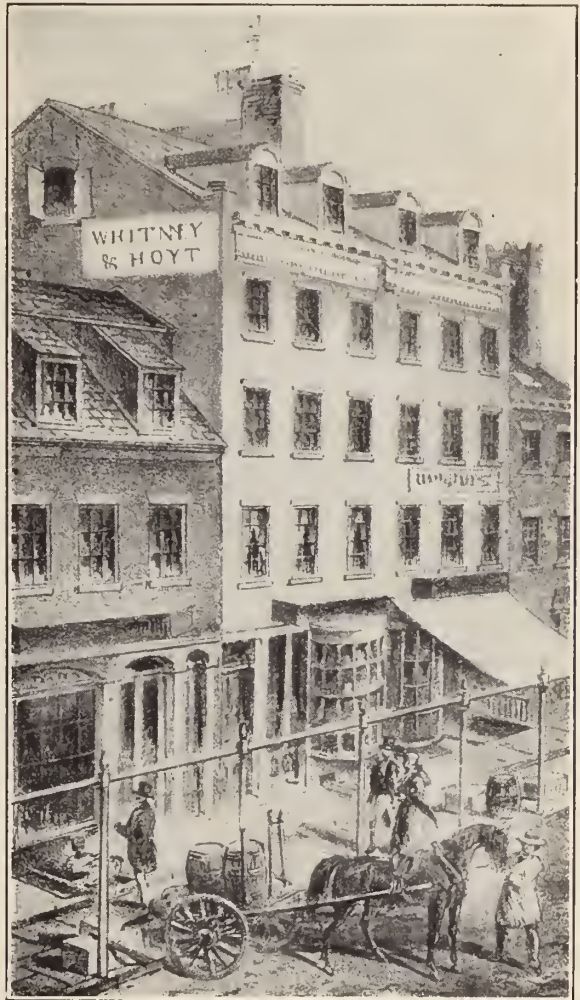
The earliest recollection I have of a theater was in 1798. Hodgskinson, a famous actor, was playing in the Old Park. I was so small that my father took me in gratis, and I sat upon his knee. The play was "Macbeth," and all I remember of it is the witches' caldron, which excited my wonder as it sank through the trap-door. The farce was "The Padlock," and I remember Hodgskinson wore a scarlet coat.

The Old Vauxhall Garden was then in Bullock (now Broome) Street, and it ran from Crosby to Mulberry. Beside it rose Bunker's Hill, which was cut down to form Grand Street. This hill was about two hundred feet high and it was surmounted with flying horses, a mead garden and other amusements. Vauxhall was famous for its fireworks; old Delacroix, a Frenchman, was noted for the taste with which he had arranged everything, and it was a great resort. On public or gala days, Bunker's Hill, which completely overlooked Vauxhall, was entirely covered with people, not a disposable inch was vacant, as all the amusements in the Garden could be witnessed from there gratis.

Corri, an Italian, had a mead garden and flying horses in Broadway on the spot now occupied by Williams' looking-glass store. It was then a hill at least fifty feet high and you reached it by climbing a very steep stairs built in the clay bank. When at Corri's Garden the eye could see Greenwich looming some two miles off, with nothing in the intervening space but marsh, creeks and meadows.

On the outskirts of Greenwich was also a garden, kept by a German named Bowrosan, and a little farther on was another, a sort of tavern, kept by old Tyler, a capital comic actor at the Old Park Theater. These two places were nearly on a line of the present Spring Street, and to get to them from Corri's you had to cross a dozen creeks from three to six feet wide. A stage, fare two shillings, started once a day from Joe Baker's porter-house in Wall Street, at the corner of Broad, for

Greenwich. Greenwich was so distant from the city that the citizens considered it a country retreat, and as late as 1821 it was filled, almost every house being crowded, with people escaping from the yellow fever. Where is Greenwich now? Swallowed up by the great leviathan, New York. Yorkville, Haarlem, all the suburbs, will share the same fate, and those who may see the year 1900 will see New York compact to Spuyten Duyvil Creek. I should like to see that day very well. If I knew where the *Elixir Vitæ* could be had, I would go to the expense of a bottle or two. I would, however, bargain now for the centennial celebration in 1876, and stipulate to be a good, moral man till then.



PEARL STREET, BETWEEN FRANKLIN SQUARE AND OAK STREET, 1835



THE OLD BRIDEWELL IN THE PARK, ABOUT 1834

It seems, then, that I have lived through a rather interesting period. Born in 1793, I began my career at almost the same time as our glorious Republic, and I have lived under Washington and all the succeeding Presidents, and also during the time the great Napoleon lived, reigned, and died. The events of the French Revolution, as they occurred, are fresh in my memory, as are all the battles, vicissitudes, and miseries of Europe and America occasioned by Napoleon's exhaustless ambition.

It happened that my grandmother was a most inexorable Tory. She was a smart, intelligent woman, but she hated anything French, and more particularly that "wretch Buonaparte," as she always named him, and toward him her hate was keener than a Damascus blade. For hours, day after day, she would walk the floor uttering the most bitter anathemas against "Bonaparty" and Tom Jefferson.

I was regularly dosed every day with reading to her endless columns of newspaper trash, and by this exercise of my lungs, my memory got well posted in the events of the day. She was a kind, good old soul; especially so to me. I took great delight in her harangues, particularly as I became a con-

vert to her Federal opinions. "Bonaparty" was expected to land in New York; *everyone* was to be massacred; and among the other outrages of the French papists, she had a holy dread that her fate would be that of *other* females. I believed it all, but it never happened. Poor grandma, Polly Dash Gassner, died quietly in 1813, aged sixty-eight, and, I sincerely believe, escaped the dreaded violation. But these readings, I confess, were of great service to me. They gave me a taste for the news of the day, created a desire to read, and a thousand events then related would never have come to my observation at a later day, or if so, they would not have been remembered, if it had not been for my daily readings.

I will also make a clean breast of it now and atone for some of the sins I committed against this good old dame. She had a holy horror of the theaters and she always counseled me to avoid them, but I must own that a good many of her half-dollars found their way into the treasury of the Old Park. But as I kept it dark, it never harmed her. I have always had a passion for the mimic world, and I confess I am never so happy as when I can completely abstract my thoughts by witnessing a good play; and, I may add,

that in consequence of this taste I have seen all the celebrities from the days of Hodgskinson to the present day: Cooke, Conway, Holman, and Kean. Poor Kean! What a miracle! It so occurred that I was present at his last appearance at Covent Garden, London, in 1833. He was playing Othello and he had reached the third act, playing as well as I ever saw him play, when he fell on Charles Kean, who was playing Iago for the first time with his father. He died ten days after, and his place, to my mind, has never been filled. I have the same opinion of Fanny Kemble and old Charles Matthews. None has ever arrived at their excellence, nor to that of Malibran in opera.

Among the many changes in manners and customs in this good city of Gotham, there is nothing so remarkable as the change in the taste for music. Fifty years ago a simple ballad to the simplest tune was thought to be delightful. Now Italian opera, and that, too, of the best quality, only will satisfy the present taste.

Old stagers will remember when John Darley and Miss Dellinger were thought to

be prodigies; and when Big Phillips, Mrs. Burke, Braham, Incledon and Mrs. Austin came they were judged to be immortals. It was, however, reserved for Malibran and the Garcia Troupe to confirm the musical taste of New York, which has gradually advanced until our taste, or judgment, is as perfect as that of any European city.

Poor, ill-fated Malibran! Married here to a money-bag, with no taste to appreciate her wonderful genius, in compliance with the iron will of her father, she always sighed for a congenial spirit, which she finally met in De Beriot, but her previous disappointments in marriage had induced bad habits of intemperance, to which she finally fell a victim.

Well, I think I have drawn some pretty heavy drafts upon my memory, but I could, without labor, repeat nearly every public event which has occurred during this century. I have also been in London and Paris, and my egotism, or vanity, prompts me to repeat a good deal of what I saw there, but I decline to make any more revelations now. *Nous verrons.*



FIREMEN IN 1800





Drawn by Stanley M. Arthurs

CHANGING HORSES.

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On the Old Boston Post Road.

ON THE OLD BOSTON POST ROAD

By Stanley M. Arthurs

ILLUSTRATIONS BY THE AUTHOR



So far back as the year 1772 there was a stage running from Boston to New York, which if it had good luck and no serious break-downs in the wilderness, pulled in over the Bowery road in thirteen days with its weary, travel-sore passengers.

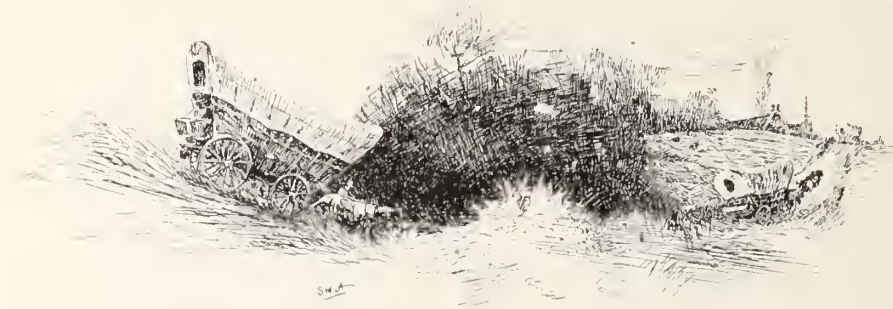
They could have gone by the slow, sailing packets in much shorter time and with greater comfort, but even then in unfavorable weather, they might beat around for more than a week before reaching their

journey's end. If New Yorkers had relatives in Boston they were farther away than our English cousins are now, and consequently travel did not develop extensive proportions in the Colonies.

Business dealings were almost entirely with the Mother Country, partly because she demanded it, and largely because the Colonies had little that they could furnish each other and thus form a basis of trade. Such raw material as they could deal in had first to be put through English mills.

These early coaches were not entrusted

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with the mail. Long before that time a monthly service had been established between these two points by the colonial authorities, and the first postman to arrive from Boston had appeared on horseback in the little Dutch burgh of Haarlem in January, 1692, travelling two hundred and fifty miles or more through the intervening stretches of snow-locked forest and morass, with no better road to follow than an uncertain trail blazed with an axe. In 1704 Madame Sarah Knight, a plucky Boston school mistress, with more love for the land than the sea, journeyed with "the Post" to New York, and was probably the first woman to travel overland on the Boston Post Road. She not only endured the hardships, but kept a lively journal of her experiences, which well depicts the discomforts and dangers of travel in that day. In it there is a prevailing sense of humor that did not desert her, even when at times her courage faltered.

Coming to one stream whose turbulent waters proved too much for her faith in horse flesh to ford in the usual manner, she sought the assistance of "a ladd and canoo" and was ferried across, while the Post led her horse and rode his own. She must have been of rather portly dimensions for she recounts—"When we were in, the canoe seemed ready to take in water, which greatly terrified me. Sitting with my hands fast on each side, my eyes steady, not daring so much as to lodge my tongue a hair's breadth more on one side of my mouth than t'other, nor so much as to think on Lott's wife, for a wry thought would have oversett our wherey."

Her "wherey" was not "oversett" and she arrived safely in New York, and, moreover, chose to return over the same route a little later.

The good old coaching days cannot be said to have started with the pre-Revolutionary "stage wagons," as they were called, and our New England ancestors were prayerfully solicitous for their friends and relatives who ventured southward in them. The "rolling stock" of 1795 carried more passengers but were scarcely more comfortable. They were virtually springless cars, built to carry twelve persons. Their seats were merely boards, without either cushions or back-rests, with no accommodation for baggage except such as could be packed beneath the seats, and only fourteen pounds was allowed there. Light curtains at the sides furnished the only protection in bad weather.

In such a rig, and over roads that still twisted around charred tree-stumps and were filled with the oft-mentioned "quagmires," the learned President Quincy of Harvard came on a visit to New York toward the end of the century. He was always willing to climb out in the mud to assist the driver in rescuing their machine from ruts or bogs; each morning, whether it was fair or stormy, he was aroused at the dreary hour of three, and dressed by the sleepy light of a horn lantern and farthing candle; then, with more haste than their progress afterward warranted, he had a frugal breakfast with his fellow-passengers and rattled off again for another day's thumping and bumping until ten o'clock in the evening. When finally at his destination, he wondered "at the ease as well as the expedition, with which the journey had been effected."

I fancy he must have been more thankful that his journey was over, than impressed with its "ease and expedition."

The hardy drivers of these coaches not infrequently fortified their endurance by



Drawn by Stanley M. Arthurs.

The mail stage and the slow freight.



too numerous potations of courage-making flip or "kill devil rum"; and then in their exuberance of vigor, they brought coach and passengers with a crash against a tree trunk, or by too reckless manœuvring "over set" the whole in the roadway.

The traveller Melich speaks of seeing many such wrecked stage-coaches, and describes one experience of his own, when fagged out by a day's journey he had fallen asleep after nightfall:

"I heard a confused noise in my sleep and started up. I felt a motion, as if I had been flying, but I had not a moment to consider what it might be; the stage door fell down upon its side with a crash, and I found myself and eleven more floundering like so many fish in a net."

The accident, he says, was occasioned by the driver being drunk and, in his frolic, trying to pass, on too scant a margin, another stage. With some satisfaction he adds, that the driver paid dearly for his folly by being discharged on the spot by one of the proprietors who happened to be along; he was left to recover his scattered wits while the proprietor drove the stage to town.

In 1806 such progress had been made that daily stages left both New York and Boston, the more rapid mail coaches making the run in three days. The usual charge for passage on coaches running through Worcester, Hartford and Stamford was sixteen dollars. The demand for new and improved roads became imperative, far exceeding the slight pecuniary resources of the different states. This resulted in the roads being constructed largely by private individuals, or companies, under control

of the Legislature. They financed their expensive undertakings by the sale of lottery tickets. It was a curious code of ethics that frowned upon gambling with cards, yet sanctioned with public approval this mode of gambling and licensed it by law.* For whatever purpose issued, whether

for public or private gain, lottery tickets found always a ready sale, and the drawing of numbers was a lively occasion at taverns.

There is a contemporary testimony of the condition:—"The General Court teems with petitions for the building of new turnpikes and toll-bridges; the spirit of improvement may be said not only to exist but to rage." Straight roads were built; the old tortuous routes that twisted around to each man's door were abandoned and many erstwhile wayside homes found themselves in consequence miles

off the beaten track. Toll-gates on the turnpikes were at intervals of about ten miles and the charge for a stage-coach was twenty-five cents, a levy for a two-horse carriage, and down to one cent each for foot passengers and cattle driven along the road. Persons going to church were given free use of the turnpike, as were those whose homes opened upon it.

The palmy days of the Boston stage began when, in conjunction with the early Sound steam-boats, it brought New York and Boston within less than thirty hours of each other. The country was then well



A tavern host.

* Not only did lottery selling furnish the means for early road-building, but for church building as well, and for the establishment of schools and endowment of colleges; indeed, even state debts were paid in that manner. In the little state of Rhode Island alone, in the year 1826, the sale of lottery tickets exceeded the sum of one million six hundred thousand dollars.

established and prosperous and looking forward to a brighter future. In 1829 largely under the control of the Eastern Stage Company, seventy-seven lines radiated from Boston in different directions. Over sixteen hundred stages rolled in and out over its streets every week. In 1832, three years later, this number had increased to one hundred and six lines running regularly; and twenty-nine steam-boats were running from New York to near-by points. A trip from Boston to Savannah, Georgia, or even farther, could be timed and planned before starting through "Badger and Porter's Stage Register" a publication appearing monthly from the printing establishment of Jonathan Parmenter in Boston. It gave tables of all established stage, steam-boat and packet lines, and a record of all new ones; the fare and distances from point to point, with the names and rates at different taverns en route.

In fact, Parmenter's publication was the Baedeker of stage travel. It was said "taverns were thick as fiddlers in hell." Commodious barns were built, countless blacksmith and farrier's forges glowed along the lines, keeping in repair and running order the vehicles of traffic. Lumbering "Conestogas," like ancient arks, dotted the highway, and at night could be seen anchored at the roadside near the village or tavern which formed their source of supply. Tethered to their wheels, or grazing along the road, were the horses, whose only protection from summer or winter's storms was the lee-side of the wagon and a covering of oilcloth or rough blanket, and the warmth of their own rugged bodies. The team drivers also car-

ried their own accommodations, a straw mattress and blankets, in which they slept under the tunnel-like canvas tops.

During the War of 1812, when American shipping lay locked in port, the hapless victim of the Embargo Act, or of British blockade, these Conestogas furnished the only means of freight transportation, and

crept over the highways from Maine to Georgia, in great caravans, scores at a time, often under military escort. Like treasure-laden ships from afar, they were enveloped in an enticing air of mystery. Their great canvas tops did not reveal their identity, whence they hailed, nor with what riches they came burdened; but the ponderous roll and creak of the wheels spoke of their bulk and weight, and an unsociable dog trotting beneath kept away the curious.

With the light musical jingle of many bells and chains as an accompaniment,

and each wagon drawn by eight or more horses encased in heavy harness, gayly decorated with many plumes and ribbons, these retinues passed through village and township.

"To eye entrancing as the glittering train
Of some sun-smitten pageant of old Spain."

With what a dash and flourish did the fast mail coaches, well named "The Thoroughbred" or "The Thunderbolt," pass these freight trains of other days. For them a fair day's journey was twenty-five or thirty miles, while the mail coaches, with frequent relays, covered twelve miles or more an hour over the hard turnpikes.

The first steam-boats began to feel their way up the Sound early in the century, going first to New Haven in 1815, to New



A stage driver.



Drawn by Stanley M. Arthurs.

A wayside passenger.



London and Norwich in 1818, and later they ventured into the open sea and around the troubled waters of "Pint Judy" to Providence. That was a risky trip for these early steam-boats, for their engines were none too well-trained and their light iron boilers encased in wood were not celebrated for safety, and frequently exploded, leaving what remained of boat and passengers to navigate by sail.

It was, therefore, to the conservative-travelling public that the promoters of the New London line appealed when they advertised that their passengers "avoid the dangers of a sea voyage around Point Judith," and that "their engine had copper boilers." The fare by that line to New York in 1827 was \$7.50, and letter postage was 18¾ cents.

An early morning start from Boston was necessary in order to reach New London or Norwich in time for the night boats, and as the clock on old South Church pealed the hour of three, the coaches started from Marlboro Hotel, taking different routes through the city to collect the various passengers who had registered for the trip at the stage office or in the stage book at appointed hotels.

A call boy had previously been sent around to awaken them, and he sometimes was the innocent occasion of a scene of nocturnal discord, and brought muttered imprecations down upon his head by thumping the wrong knocker and awaking some home-keeping sleepy Bostonian.

Passengers and baggage would be waiting as the stage appeared, its empty body heaving and tossing "like a ship upon a raging sea," its enormous wheels rumbling like distant thunder. Woe to the tardy who were not in readiness when it drew up; for in a moment either the coach door closed with an occupant within or the impatient team started with the prospective passenger without. We can picture them a little later in their chaises galloping in the wake of the stage, hoping to overtake it at its stop for breakfast or before. With the last passenger aboard and baggage secured, the coach threaded its way through streets, vacant and silent as if locked under the magic wand of enchantment. In darkness, except for the dim glow of the stage lamps, the passengers without a clear idea of each others' identity uncomfortably endeavored to resume their morning's nap.

As the gray light tempered the darkness, the returning life of the country side was evidenced by twinkling lights, first in the second story or from an elm-sheltered attic window; then in the cosy glow of crackling hearth fires in the kitchens and curling strips of blue smoke from ample chimneys, and fleeting whiffs of cooking breakfasts.

In the early morning perhaps thirty coaches would pass, filled with way passengers and those bound for New York. The stops for breakfast were at appointed taverns, where for hours before the bustle of preparation had been going on. It might be at the famous Wayside Inn in Sudbury town or even as far away as Walpole, nineteen miles from Boston.

We need no better assurance as to the excellence of the feasts prepared in these hosteries than the enthusiastic laudations they drew from the epicures of France, or the rotund, beef-loving Englishman, who, if he found nothing else quite to his liking in America, could record his grateful appreciation of the tavern fare and the tavern host.

In glowing reminiscences they enumerate these early morning repasts of fish and fowl, mutton, steak, waffles, johnnie cakes and bread and butter, with abundant supplies of milk and cream, eggs and vegetables; and hotel dinners that included touches of completeness that both surprised and delighted them. Their breakfasts and teas in English taverns were meagre affairs, by comparison.

It may be said that a few hours' trouncing and jolting in the open air in these stage-coaches furnished all the necessary training for a proper frame of mind and body to appreciate this appeal to the "inner man." I think it is a French adage which offers to appease the hungry by means of sleep:

"He who sleeps feasts."

Such a proverb could not be applied to American stage-coach days. Sleep they did not much indulge in, but feast they certainly did, around bountifully laden tavern boards.

The surroundings and general appearance of these wayside abodes of hospitality were well fitted for inward appeal. The din of innumerable cackling hens announced the steady production of eggs for toddy, eggs for custard, eggs for pie and cake, and eggs for future broilers. Flocks

of haughty complaining geese and contented ducks waddled around their borders. At their backs stood a forest of apple, pear, and plum trees, and rolling fields of wheat or tasselled corn and meadow land and cattle.

But even more was the Inn the centre of the business, social, and at one time even the civic life of the community, for Court once held its regular sessions there. It remained the head-quarters for all sales and "vandues," for the opponents of different political creeds to solve the intricacies of self-government, and it was often the post-office. Many taverns provided rooms with polished floors for dancing, and gay coaching parties came from Boston or Providence and mingled in the sinuous web of the quadrille and contra-dance. Gallant sparks came from town in broadcloth suits of purple and maroon, high-rolled collar and ruffled neckerchief and scant waistcoats of flowered silk with dangling fobs, and with them bewitching maids clad in trim gowns of white and buff, silken hose and slippers. Then the building glowed with light and cheer and the music of violin and piano-forte drifted from open windows and down the highway.

The tavern host was the gleaner of the world's news as recounted by his many guests. His advice was sought upon all matters, whether of private or public importance. They were men of prominence and personal worth, for it would have been difficult for any one else to have obtained a license. Sometimes, as with Lyman Howe, who presided at the Wayside Inn, a crest and coat of arms denoted a lineage from families opulent and distinguished in England. They perforce were genial and open-hearted and could entertain as well the obscure traveller as men of fame and prominence in affairs. Imposing personalities from both England and the Continent were at times their guests; such men as Baron von Humboldt, Louis Philippe, Lafayette, or the brilliant Prince Talleyrand, and such native political heroes as Webster, Clay, and Adams; and distinguished men of letters and business. Able to set for their guests a table "fit for a king," they were able, also, to preside with dignity and grace at that self-same table.

And these were lively days in the villages along the highway. Their coaching stables contained literally hundreds of restive,

well-fed horses. A keen rivalry existed at times between competing companies, and their rate wars offered very attractive inducements for travel, as well in England as in this country. There is a record of two lines running into Liverpool, which in their bids for public patronage reduced travelling expenses to a minimum. With a gradually reducing scale of rates, the proprietor of one line finally advertised the following fares:

Inside—What you please.
Outside—ditto ditto.

There would seem to be nothing to add to such terms, but the other party was not at all disheartened and revised his schedule as follows:

Inside—Nothing at all and a bottle of wine.
Outside— ditto ditto.

Yet even better terms than these were offered by a line running from Boston to Providence, for not only was free transportation advertised, and a bottle of wine, but a full-size dinner as well.

Coach-making developed into a thriving industry, employing hundreds of men. Each builder developed his own ideas of construction and many queer and varied types appeared upon the thoroughfare. A few picturesque examples are still stored in barns near the roadside recalling the past like stray pages from some old journal of the road. The rival stage companies introduced many pretentious coaches gay with bright-red and yellow bodies and striped blue or green wheels, with doors embellished with designs and named to accent their feats of speed. From the many types was evolved in 1827 the familiar Concord coach, which with very few alterations is being constructed to-day just as it was then. It soon superseded all other forms, representing the acme reached in the construction of public coaches. After serving its day in the East, this trustworthy vehicle, swung a little lower on the running gear, trundled westward to run the gauntlet on the prairie and mountain side under the hair-trigger driving of "Shot Gun Taylor" and "Indian Bill."

Rugged of outline, with comfortable homely furnishings, huge of wheel and broad of tire, with sturdy hub and axle, they carried all who could pile in or on the body and over any road that a cart could travel. At holiday season or at the ending



Drawn by Stanley M. Arthurs.

The steamboat landing at Norwich.

of a school or college term, these old rigs were well compared to the venerable Trojan horse, except that they swarmed with life outside as well as in. I have read of disappointed school-boys, who, unable to find a vacant spot upon the home-bound coach, were forced to spend a dreary Thanksgiving Day at college, tormented by visions of unattained good things at home.

These coaches carried readily nine passengers inside, three upon the back seat, three in front (facing the rear). Between them were three individual seats, which could be tilted backward to gain access to those in the front or rear. The occupants of these could rest their backs upon a broad leather strap hooked to either side of the coach. On top the driver occupied a slanting seat and was protected from being crowded by the passenger at his side by a light iron railing. On the coach, at their back, was a seat holding three others. A heavy boot at the rear held the trunks and heavier baggage; the lighter bundles and handboxes were piled on top.

The fast mail stage was of lighter construction and carried fewer passengers. Night and day it could be heard passing along the highway, under the skilful "tooling" of as finished drivers as ever played the ribbons. There was a ring of distinction in the music of its horses' hoofs that separated it from every other sound of the turnpike, and a mutual knowledge and understanding existed between the master and beast. His team was not a selected, mated array, but constantly contained new and untrained material in its make-up that in other hands would have brought calamity and distress to the trusting maid, who was only too glad to ride perched high in the air at his elbow.

Kicking, vicious, otherwise unbreakable horses were welcome additions to his team as possessing a commendable spirit, capable of being turned to proper account. In all weather, notwithstanding the impediments offered by the tide of commerce upon the highway, skilfully and accurately, with scarce perceptible lessening of speed, he brought his coach safely and always on time to its destination. No wonder he typified the secret aspirations of growing youth in the village and farm-side, and held the constant admiration of both maid and matron.

Who could witness with indifference the gay dash of his approach to the changing station, the perfect curve with which his team swings before the tavern door, and then with fresh horses is off again before the coach ceases rocking.* These men were horsemen born. Stage drivers ran in families, *aviator nascitur non fit*, as it were; if that be so, many of their descent and family must have been among the drivers of the Deadwood coach and the stages running through the treacherous passes of the Rockies in a later day of coaching.

The canvas mail bags were carried beneath the driver's seat for safety and, while stage robberies were not frequent in New England, the current newspapers abounded with reports of the escapades of "The Knights of the Road," and we are left with the impression that these worthy horsemen had at their command a blunderbuss loaded with enough shot to annihilate a dozen "road agents" at one time.

A favorite haunt for plying their vocation lay in the pine-covered wilds between Baltimore and Washington. Robberies there were alarmingly frequent, and Congress finally provided a guard to protect the United States mail and the passengers from their ministrations.

A copy of the *Rhode Island American*, appearing in 1820, reports a robbery in that vicinity in which twenty-one thousand dollars peremptorily changed hands, and Mrs. Earle † describes another which occurred there two years before. The robbers were captured, and over ninety thousand dollars in bills and drafts were recovered.

New York could boast, in 1820, of 125,000 inhabitants. Boston, the third largest city, contained about 50,000 persons. Between them journeyed with some leisure the native Yankee on his own heath and soil, the Quaker gentleman from Pennsylvania, and the Southern planter, seeking a market for his products, and among the patrons of the coach and steam-boat lines were many critical Englishmen. Newspapers were not so common then, nor such active agents in moulding public opinion, as to do the thinking for the whole country. The individual Yankee thought for himself, in his own independent fashion, and the planter gen-

* This rapid change was effected by eight men, four to unharness, and four to attach the new team, and was accomplished in the short time of one minute.

† "Stage Coach and Tavern Days."

tleman introduced an entirely different life and experience within the confines of the rumbling coach. That animated and prolonged discussions were the result, we can gather from reading of that not very remote time. Frequent mention is made by the travellers of the entertaining companions they encountered, whose original talents for story-telling and singing were so thorough, and whose observations were so witty and shrewd as to make the time pass very merrily.

Sometimes, no doubt, the personalities were not conducive to such pleasant memories. There is a contemporary story of two Englishmen and a Bostonian journeying in the same coach. The visitors, much to the Yankee's discomfort, were indulging their patriotism by abusing everything American; the beef, the mutton, the bread, the fruit and milk, each in turn failed to equal the high standard of England. The laws were not satisfactory, nor were the people to their liking; the roads were unbearable, and the climate, even, failed to compare favorably with London fogs. The American was compelled to listen, annoyed both by their utter disregard for his presence and by their arraignment of his country. Finally, there came on a tremendous thunder storm, with alarming flashes of lightning and a heavy wind, which deluged the stage with water, but did not quiet the complaining Englishmen. Suddenly, with a blinding flash of light and with a reverberating crash of thunder that shook the coach, the lightning demolished a near-by tree. Unable longer to restrain himself, the American burst forth in rage, "There, damn you! I guess that thunder and lightning is as good as anything you have in England."

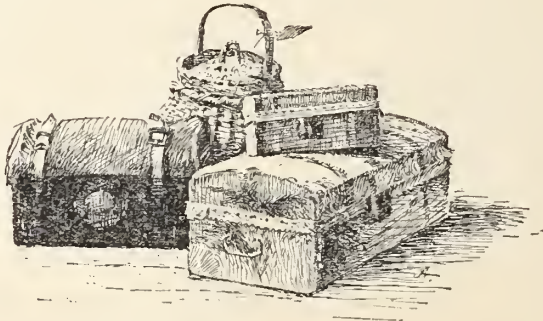
There were many routes over which the

Boston stage rumbled en route to New York, all of them active channels of commerce. To-day parts of the same roads are almost untravelled—deserted except by the few farmers living near them. In its best days the thoroughfare was often changed, when improved or shorter routes could be made. Since then, it has continued to change, until nothing is left to indicate its past life and usefulness, except a few crumbling landmarks—the generous roomy taverns. One by one many of them have met their fate in fire and ashes, or have been otherwise destroyed; but the older residents can point out where they stood, and tell the name of their once-creaking sign-board, and of the wonderful picture that adorned its face, and give you the name of the tavern keeper who prospered so long as the stages ran.

On the road where once the stage horn blew, now in the distance can be heard the scream of the locomotive, or the grinding of trolley cars. Indeed, across the very face of the old highway their bands of iron have locked its past, and secured the present.

A little further back on the road, where neither the sound of the engine nor trolley has yet penetrated, one may still imagine the passing of the homely stage with its passengers, arriving perhaps at sunset before a village, and one can sense the joy, both of the travellers and the town folk, when the stage horn plays again,

"Polly put the kettle on, and we'll all have tea." For the passengers it meant, the good supper and the luxury of a soft bed and snow-white linen; for the others, the expected intelligence from an outside world.





Drawn by Stanley M. Arthurs.

The evening mail



NEW YORK A HUNDRED YEARS AGO

EXTRACTS FROM THE DIARY OF AN ENGLISH MERCHANT
WHO VISITED AMERICA IN 1809

A NUMBER of travelers recorded their impressions of the United States in the early part of the last century. All of them, however, from Captain Marryat and Messrs. Fawkes and Fearon to Captain Basil Hall and that very clever woman, Mrs. Trollope, were consciously writing for publication. Inevitably they indulged in many literary touches which augment the immediate interest of the reader at the expense of truth.

The passages which are selected for publication here were never intended to see the light in print. They are taken from the manuscript diary of a Mr. Samuel Bridge, an English merchant who visited the United States in 1809, at a time when, under President Madison's administration, all commerce between the United States and Great Britain had been suspended by the Non-Intercourse Act.

Mr. Bridge, who was apparently engaged in the exportation of turpentine, sailed from Portsmouth on May 10, and landed in Quebec on June 29. He remained in Canada until October 15, when he entered the United States at Rouse's Point and pursued his way through Lake Champlain and down the Hudson River to New York. Part of his narrative, which is given here, relates to this particular expedition. It comprises, indeed, almost his entire stay in the United States, as he presently returned to Canada.

In his neatly written pages we have a series of off-hand impressions which are very interesting, even though they are not developed as they would have been had their author written them for publication. The difficulties of travel, the extreme discomfort of the inns, and the general crudity of country life in America a hundred years ago, are made very clear. Mr. Bridge's description of the pioneer steamboats on Lake Champlain and the Hudson River—or "steam boats," as he calls them, the term being then a new one to the language—is amusing, and what he has to say of New York itself is a perfectly spontaneous and uncolored narrative.

It is worth noting that the Mrs. Poe whom he heard sing at the theater in New York was the mother of Edgar Allan Poe. Her distinguished son had been born only a few months before this time.

The extracts from Mr. Bridge's diary begin with his arrival at the northern frontier of New York State.

OCTOBER 15, 1809. — Rose at half past six. The wind having abated, I hired a three-oared boat and set off at nine. It being a fine day, we had a tolerably comfortable voyage, and arrived at the line at half past five, over which no vessel is permitted to pass, the Non-Intercourse [Act] being now in force. We, therefore, landed at Rouse's Point, within a few yards of the division-line, which is pointed out by a stone. Before quitting the territory of King George, we did ourselves the honor to drink his health in a little rum and water, the only liquor to be had.

We had to walk about half a mile to

a small hut or inn, kept by one Rouse—from whence the place takes its name—a captain of militia. Near it is the custom-house, or ballroom, for in the evening four Yankees—a judge, a colonel, a captain, and a squire—had a jig, notwithstanding the day—Sunday. It is necessary to observe that colonels, majors, captains, etc., are to be found, we are informed, among tailors, barbers, publicans, and tinkers. In short, they appear to be the spontaneous production of the American soil. We slept at Rouse's. Three beds were prepared for all my company in one room—a small garret. My companion and self had taken possession without being

aware of this sociable arrangement, and Mr. and Mrs. Bell were obliged to put up with a truck-bed placed in an adjoining landing, or cockloft

ON LAKE CHAMPLAIN

October 16.—Rose at seven and hired a boat for the day. After proceeding about seven miles in the lake, we turned into the Great Chauze [Chazy] River, and after going six miles, were obliged

but as he had neglected it at first, we refused, and walked down to the boat, where P. and self dined on a piece of cold beef and a bottle of cider, which we luckily had left from what we brought from St. John's yesterday. As we had not eaten since morning, and it was then six o'clock, I need not add we wanted no sauce.

Mr. and Mrs. Bell soon joined, and we returned down the river and a little



THE FOOT OF CORTLANDT STREET, NEW YORK, AS IT APPEARED IN 1809, WITH THE DOCK AT WHICH THE STEAMERS PLYING BETWEEN NEW YORK AND ALBANY MADE THEIR LANDINGS

to land on account of some rapids, and walked on a mile to Champlain town. Called on a Mr. Silas Hubble, attorney, and Judge Moore, on Mr. White's business. We were detained by them near three hours. While we were at Mr. Hubble's, the judge asked Mr. and Mrs. Bell to his house, and they went. When we had finished our business, we called there for them, and he then thought proper to ask us in to tea;

way up the lake, till we arrived, at half past ten, at the town (a few scraggling houses) of Little Chauze, and put up at one Chandonet's, innkeeper and captain. After partaking of a light supper, consisting of tea, beefsteak, stewed fowls, potatoes, preserved plums, pickles, buttered toast, etc., and washing it down with a glass of sling, we retired to our nests about twelve.

Upon the whole, we have enjoyed

this day very much, weather being fine. The river Chauze is beautiful beyond description; not more than a quarter of a mile across in the widest part, and covered with trees to the water's edge, chiefly pine. It scarcely runs one hundred yards without winding. There are some few log houses here and there on its banks, inhabited by people employed in clearing the land. Champlain is a small, neat, and apparently flourishing place, settled by Judge Moore. Within these few years, here is a large water grist-mill and a woolen manufactory.

On our return we were favored with a fine moonlight evening, which enabled us to enjoy the scene, and to avoid the numerous logs of trees which had fallen from the bank in all directions.

October 17.—Rose at six. After taking some rum and milk to keep out the lake fever, which is frequently taken by strangers, went to see Mr. Glennie's land, about three and a half miles. About one mile on our way we had to pass an unfinished bridge, hardly worthy the name, about twenty foot high and sixty yards over, composed of large single logs, at a distance from each other, a little flattened on the top with an ax. I found myself incapable of passing this place in an upright position; so, copying for once from the brutes, I e'en crawled on all fours.

An inhabitant took us in his canoe some distance up the Little Chauze, and landed us on Mr. Glennie's land. After viewing it and seeing the people on it, we returned by a different route, to avoid my awkward namesake, to Chandonet's about eleven to breakfast, Mr. P. having consented to accompany me farther. It was his and my intention to have got on to Plattsburg this night, but after every inquiry, we were not able to procure any conveyance. Indeed, we walked out upward of three miles, but

without success. On our way back we stepped into a hut to rest, and the good woman treated us with some beer brewed from pumpkins and hops, not unlike small table beer.

FROM PLATTSBURG TO ALBANY

October 19.—Rose at eight, and after a good Yankee breakfast went to county clerk's office kept by Judge Platt, and then hired a single-horse chaise to go to General Moore's on Mr. White's business. While it was getting ready, went to the court-house—a very neat building. The court-room is made use of as a place of worship. We were introduced into the jail and black hole—two very snug, little, comfortable, dark apartments. No prisoners at present.

At twelve rode to General Moore's, about three miles, situate on the side of the bay. As my business detained me full three hours, we ac-

cepted his invitation to dinner. Dined on pig and plum sauce, and also partook of some home-made currant wine—very good. General Moore appears to be a very hospitable gentleman. He has a large family—nine children. Returned to town at five, and took a ride another way out for about an hour. At home the remainder of the evening.

In the morning we met the boatmen who brought us here, and whom our lying landlord persuaded us had left a potash-work on purpose to bring us, and that it was absolutely necessary they should return before morning. They, however, confessed they had been hired to come here to play the violin all night, and that they would have been glad to have taken anything we chose to give them to bring us, instead of making us pay them four dollars.

In Plattsburg is an iron forge for making bar iron, worked by water; as well as a fulling-mill adjoining. A river runs through the town and empties



SAMUEL SOUTHBY BRIDGE, AUTHOR
OF THE DIARY QUOTED IN
THESE PAGES

From an old miniature

itself into the bay. Over it is a neat wooden bridge, about one hundred yards over. A short distance from it the river is dammed up for the purpose of working saw and grist mills erected on its banks. This, causing a kind of a fall in the water, has a beautiful and pleasing effect, contrasted with a small rapid below the bridge. It is a straggling town. Has several apparently good inns, and many stores, among which is one of both descriptions designated thus: "Cheapest Store and Tavern, by Caleb Nicholls, *Attorney at Law*."

October 22.—We were awakened about half past five with an account that the steam boat was arrived, on board of which we embarked at eight, after breakfasting, and I was rather surprised, and no less pleased, to find two of my quondam companions at Mrs. Baberty's among as pretty a set of Yankey Doodles as perhaps ever met together.

The STEAM BOAT is one hundred and twenty feet long and sixteen broad.

The fire boiler and machinery is placed in the center, rather toward the bow, and turns two wheels, one on each side the vessel, similar to a water-mill, which impels her forward against wind and tide, at from three to five knots an hour; or according to the attention paid to the fire. There is but one mast, and that on the fore-castle, on which occasionally a sail is hoisted when the wind is favorable. The stern cabin of twelve berths is appropriated for ladies; one in the waist for gentlemen, consisting of sixteen berths, eight of which are intended to carry double, or a pair of Brother Jonathans. Mr. P. and self were too late to claim even half a one.

Among the tolerable part of our company were a Mr. Ogden, wife, and family, and a Mr. Armstrong—a Jamaica gentleman—who had come from thence for his health, and Judge Moore of Champlain, so that in point of company we passed the day very pleasantly; but in provisions we were so ill provided that had it not been for Mr.



ROBERT FULTON'S PIONEER STEAMER, THE CLERMONT, WHICH MADE ITS FIRST VOYAGE FROM NEW YORK TO ALBANY IN AUGUST, 1807

Ogden, who had laid in a small stock of provisions for his family, we could scarce have made a dinner. I mean the select part, as the rabble dined first, having for that purpose placed themselves at the table long before it was ready, so that in fact we had their leavings. The last set at tea, or supper, had to complain of the want of two essential things—bread and butter.

About twelve o'clock a *select* party set down to an elegant supper, cooked by themselves, consisting of roasted potatoes and onions, with Yankee cheese. About one o'clock A.M., Mr. P. and self, with our greatcoats for our beds and trunks for our pillows, invoked the sleepy god.

October 23.—I was awakened with an account of an almost total eclipse of the moon, which I went on deck to observe, and had scarcely laid down again when I was informed our vessel had stopped, and it was discovered she had run aground in the fog. Every method was resorted to, in which all hands occasionally assisted, to get her off; but in vain. She was completely fast in the mud. Neglect was the occasion of this disaster, as our pilot had been made tipsy by one of the passengers, and the captain had been in bed nearly all day, *unwell*.

Our situation was made still more disagreeable by finding we had nothing to eat but cheese. And they thought themselves uncommonly well off who could find a potato. One Yankee, indeed, about twelve o'clock, ate with great relish a large piece of cabbage, which he found on the deck, and a bit of cheese. Our only boat was sent four miles off in hopes to procure some conveyance, and we had every prospect of passing a complete banyan day,* when fortunately a sloop hove in sight, and about four o'clock P.M. took most of us on board and landed us at Stony Head, a distance of four miles. Here again we were indebted to Mr. Ogden for a small slice of ham, a piece of bread from a house near the spot being all we could get.

Mr. Ogden, who came on shore first in the steam boat's boat, had hired four wagons; two for himself and family, one

for Mr. Todd, and one for myself and friend. Mr. O.'s arriving first, he set off, as we did half an hour after.

October 25.—Rose at four, and a quarter before five continued our journey. Passed through Lansingburgh, a town on the North or Hudson River, and at eight o'clock put up at Titus's Inn, Troy, to breakfast.

This is a tolerably large and flourishing town, situate on the east side of the North River, three miles from Lansingburgh. There are many neat brick houses, and it carries on some considerable trade both for New York and Albany, from which latter place it is not distant more than six miles, and we had been in hopes to have reached it time enow for the steam boat, which we were informed sailed at nine o'clock. We, however, now found that impracticable.

We therefore took our time, and after crossing the North River in a boat called a "scow," proceeded along its banks and entered Albany about twelve o'clock and quartered ourselves at Lewis's Hotel, or City Tavern, in State Street, not a little pleased to quit our neat post-carriages. After dinner, Mr. P. and self walked about the town, and then to the courthouse. As the court was then sitting, remained there about an hour and then returned home.

The courts of justice in America are conducted without that appearance of solemnity and order so observable in England. The judge is frequently seen during a trial smoking his cigar with seeming unconcern. Indeed, was it not for his seat, it would be difficult to distinguish him from an ordinary spectator, as neither he nor council wear any gown. From the filthy habit of smoking cigars by all ranks, at all times, we may fairly imagine their wisdom is in them, instead of the wigs, as jocosely said in England.

October 26.—Rose at half past eight. After breakfasting, went to different State officers on Mr. White's business, after which Mr. Poindexter, Mr. Armstrong, and self went to see a museum, where we remained near three hours, and were much pleased. It is a collection made by a few individuals.

Albany is a city—the capital of the State of New York—a large and tolerable well-built place. It was originally a

* Banyans, or banians, are a class of Hindu traders, one of whose principles is abstinence from flesh food. Hence, in the British navy, those days on which the sailors had no meat ration were called "banyan days."

Dutch settlement, as is plainly perceivable from some of their original houses which are still standing. The streets are spacious, paved, and lighted. The pumps, here and there placed in the middle, have a curious appearance. The town is pleasantly situated on west side of the Hudson River, about one hundred and sixty-six miles from New York, with

blue and white marble. At the upper end are the rooms appropriated for the Senate and House of Assembly.

FROM ALBANY TO NEW YORK

October 27.—Rose at eight. After breakfast walked to steam boat and engaged our passage for New York. Walked till dinner. Afterward Mr. P.



BROADWAY, FROM THE CORNER OF WALL STREET, AS IT APPEARED IN 1809—ON THE LEFT IS THE OLD BUILDING OF TRINITY CHURCH, WHICH WAS DEMOLISHED IN 1839

which place it carries on an extensive trade by water, it employing near fifteen hundred vessels, chiefly sloops. The houses are chiefly built of brick, and many of them three and four stories high, large and handsome.

The court, or State House, is a good, handsome building, erected in the year 1805, of brick, at the top of and overlooking the principal street, State Street. It is faced with stone and ornamented with a portico supported by four handsome, fluted marble pillars, and you enter the building by a flight of twelve or fourteen steps of the same material into a hall, or saloon, paved with alternate

and self visited the burial-grounds of the different religions, for which purpose several lots of ground are appropriated about a quarter of a mile from the town; which method appears to be adopted in most of the places we have seen. We saw several specimens of beautiful marble, of which, and the reddish-gray stone of the country, the monuments were in general composed. Among many, I cite the following inscription on one of the tombs, as a curiosity:

Here lies the best part of my Heart,
A Woman that's worthy of Praise;
For her Affection and Industry was such
That it certainly shortened her Days.



THE OLD PARK THEATER, WHICH STOOD ON PARK ROW, OPPOSITE THE PRESENT SITE OF THE NEW YORK POST-OFFICE—HERE MR. BRIDGE SAW WILLIAM TWAITS ACT, AND HEARD EDGAR ALIAN POE'S MOTHER SING

October 28.—Rose at half past six. Breakfasted and went on board the steam boat at eight: and in half an hour afterward we left Albany, with the wind against us. This boat* is much larger than the one on the lake, being one hundred and seventy-five feet long and thirty broad. In the middle it has two masts, and the wheel which steers is placed in the center, over the boiler, and communicates with the rudder by means of ropes passed through pulleys for this purpose. Along the side of the vessel, by this contrivance, the man at the helm is able to see her way.

She is handsomely fitted up, and great attention is paid to passengers. The provisions are good and plentiful, and the beds clean. There are three cabins: one aft for ladies, containing twelve berths; the center one, twenty-four; and the fore one, eighteen. Half of these are intended for double ones. Cards and smoking are only permitted in the fore one.

* If Mr. Bridge's figures are correct, the steamer on which he traveled was not the *Clermont*, but a sister vessel. The *Clermont* was only sixteen feet beam; her original length was one hundred and forty feet, but she was lengthened in 1808.

The center or principal cabin is used as the dining-room.

About seventy of us set down to our meals at two tables, which were laid out very neatly, without being incommoded. Chairs and rush-bottomed settees form temporary beds for those who came too late to procure berths. Fortunately, myself and friends were not of the number. Our passengers were for the most part decent people, and we passed our time tolerably agreeable. The fare is seven dollars, including victuals. Wine is, of course, made a separate charge.

We arrived at New York about eleven o'clock in the evening of the 29th, but being so late few of us left the vessel till morning. The river from Albany affords some delightful views, and there are several towns situate on its banks, the most considerable of which are Newburgh and Hudson. At the latter we stopped about a quarter of an hour, but did not go on shore. The river in general is as near as possible the breadth of the Thames at Gravesend, now and then wider and narrower for a few miles. It

is computed that two thousand small craft, mostly sloops, are navigated on it. We passed some high, stony land rising perpendicularly from the side of the river, supposed to be a mile high. I think it exaggerated. A Mr. Livingston* has the patent from this State (New York) for the exclusive privilege of navigating all rivers by steam boats. It is said he has been twenty-five years bringing them to perfection. This one cost thirty thousand dollars, or £6,750 sterling.

IN NEW YORK CITY

October 30.—Rose at seven, and took our baggage to the City Hotel in Broadway, where we had our breakfast. After which Mr. P. and self went in search of lodgings, and engaged one at a Mrs. Lewis's in Pearl Street, and removed our trunks about twelve. The day turning out wet, I could not deliver what few letters I had. After dining at two, Mr. P. and self endeavored to take a walk, but the rain soon obliged us to return. To bed half past nine.

Our fellow lodgers are chiefly captains of ships, and perhaps we might have found ourselves more comfortably situated elsewhere; but indeed we are as much actuated from a principle of economy as anything, the price of boarding and lodging being in general from ten to twelve dollars per week, and here we pay seven dollars. Our companions not drinking wine, gives us an opportunity of saving that expense, without appearing singular, the common price of Madeira

being two dollars per bottle. Therefore, I conclude it makes a difference of at least seven dollars per week to us.

October 31.—Rose at eight, and after breakfast Mr. P. and self employed ourselves in viewing the city and delivering the letters I had promised to do personally. I had two recommendatory from Mr. Harkness; one to a Captain Smith, and the other to a Mr. A. Gracie, a merchant.* The latter I have called on twice without seeing, and the former's residence I cannot make out.

November 1.—Rose at eight. After breakfast was directed to a Mr. Knox in Murray Street, on whom I called several times without seeing, as well as Mr. Gracie.

At six we went to the theater, in the boxes, and saw the play of "The Merchant of Venice" and "The Children in the Wood." The house is nearly the size of the Haymarket, very neatly fitted up. There are three tiers of boxes, and but one gallery. It is observable that no female is ever seen in the pit here, for what reason I could not learn. The house was tolerable full. There are separate porter, punch, and coffee rooms for the use of visitors. The latter is carpeted and fitted with sofas and every requisite accommodation. The scenery is tolerable good, and pretty well managed; and as far as I can judge the acting is not to be found fault with. A Mr. Twaits and a Mrs. Mason are the



WILLIAM TWAITS, A FAVORITE ACTOR OF THE EARLY YEARS OF THE NINETEENTH CENTURY—THIS ENGRAVING SHOWS HIM AS SIR ADAM CONTEST IN "THE WEDDING-DAY"

*Robert R. Livingston, Chancellor of New York from 1777 to 1801, and Fulton's associate in the promotion of steam navigation on the Hudson.

* Archibald Gracie was a shipping-merchant, and one of the leading citizens of New York during the early part of the nineteenth century. His town house in 1809 was No. 15 State Street, at the corner of Bridge Street; a few years later he moved up-town to No. 629 Broadway. He had a country place at Gracie's Point, on the East River. Born in Scotland in 1756, he died in New York in 1829.

leading characters here at present, and we had two or three songs from a Mrs. Poe, which in my mind was middling. The performance was over about eleven o'clock.

November 2.—Rose at eight. Again called on Mr. Gracie, and, not seeing him, left my note and address. I likewise found out Captain Smith's residence, but he was at sea. Mr. P. and myself again took the tour of the town.

from which they are not distant more than twenty-five miles.

The streets of New York are spacious, tolerably paved and lighted. The foot-paths are chiefly paved with brick, though some are flagged. The principal streets—Broadway, Greenwich, etc.—are upward of a mile long. Indeed, the town is planned out near nine miles, and the buildings are increasing very fast. The houses, which are chiefly of brick, are



THE NEW YORK STATE PRISON AS IT APPEARED IN 1809—THIS BUILDING WAS IN GREENWICH VILLAGE, AT WHAT IS NOW THE CORNER OF WEST TENTH AND WASHINGTON STREETS

New York is, I believe, the largest city in the Union, except Philadelphia. It is pleasantly situated on the south end of the Island Manhattan, or York, which is fifteen miles long; in some places upward of two and a half wide, though the end where the town is built is not more than a quarter. On its right runs the Hudson, or North River, and on its left another known by the name of the East River, from its shaping its course in that direction, and it empties itself into the sea at about one hundred miles distant, forming an island called Long Island, which prevents the inhabitants of New York from having a view of the open sea,

lofty and very neatly built. Almost every one is painted on the bricks, which gives them a very lively appearance. There are also some very neat, and indeed handsome, houses belonging to the citizens a short distance out of town. There are very few public buildings that attract the attention of a traveler, with the exception of one now erecting* on apparently a large scale, of brick, but faced with all the ornaments, pillars, etc., to be composed of white mar-

* This was the existing City Hall, begun in 1803 and opened in 1812. It superseded the ancient City Hall on Wall Street, which occupied the present site of the United States Sub-Treasury, and in which the first Congress met in 1789.

ble. It is, I believe, intended for State offices.

In this town likewise is the building where the first Congress of the United States was held. It is a poor building, and is now appropriated for a court of justice. The Hall of Congress is now the Court of Chancery.

The churches are numerous, and many of them large and elegantly built of stone—particularly St. Paul's and Trinity, both English. The latter is the metropolitan. In the former is a neat marble monument to General Montgomery, who fell before Quebec. In Beekman Street is a small Episcopalian chapel,* at present remarkable for bearing as a vane the crown and scepter, said to be the only remains of royalty in the State.

The custom of planting trees—in general, Lombardy poplars—on each side of the streets adds very much to their appearance, and is universally practised. Some few years since, the magistrates, during the continuance of a pestilential fever, ordered them to be cut down, but were but partially obeyed. It is now considered that they add to the health of the place by the waving of their branches creating an air during the extreme heat of the summer months.

In the center of a small area, before the custom-house—formerly the government in the time of royalty—still stands a stone pedestal on which there was once a statue of his present majesty,† cut in lead, which during the Revolutionary War was taken down and converted into bullets.

The town and neighborhood are said to contain near ninety thousand inhabitants. Business, as may be supposed, is very slack at present on account of the non-intercourse.

November 7.—Mr. P. and self having procured tickets, went about two miles out of the town to see the State prison, at Greenwich. The punishment of death in this State, as each State is governed by its own laws, is never inflicted but in case of murder.

We were very much gratified with this

place, as the greatest order, cleanliness, and regularity is observed throughout. Every prisoner, if a mechanic, is obliged to work a daily task allotted him, and whatever he can earn further he is permitted to appropriate to himself. Those who have not been bred to any trade are permitted to make choice of one, or otherwise are set to pick oakum. There is at present a German count employed in this way for forgery. There are separate workshops for each craft, among which are blacksmiths and nail-makers, shoemakers, tailors, coopers, weavers, turners, spinning, toy-makers, etc. The building is of brick, and apparently well arranged to promote the health of its inhabitants, of whom there is at present about eight hundred. It is surrounded with a wall, on which, at proper distances, are placed sentinels.

There are very few females, whose employ is to wash and mend the linen. One of the keepers attends strangers through the different workshops, and is not permitted to take any fee. No one is allowed to converse with a prisoner without having first obtained the consent of the head keeper.

November 9.—While strolling along the Broadway I met Mr. G. Twaits, of London, whom I had been introduced to in Montreal. He has been here a fortnight, though we had not been fortunate enough to meet before. He is a very genteel, conversant young man, and seems to wish to cultivate my acquaintance.

I dined with him on the 10th at the hotel, when he invited four or five gentlemen to meet me, among whom were a Mr. Fisher and Proctor, two pleasant gentlemen, and pressed me very much to pass another week with them, and politely said they were sorry we had not met sooner, as they would have endeavored to have made me pass my time more pleasantly, and requested if I should visit New York again I would not forget them, and they would endeavor by their attention to make up for the dull time I had passed here. Indeed, I almost regretted I had taken my place in the steam boat to-morrow.

November 11.—Mr. P. and self again embarked in a steam boat to retrace our way to Montreal, about five o'clock p.m.

* St. George's (now on Stuyvesant Square), originally organized in 1751 as a chapel of Trinity Church.

† This equestrian statue of George III stood in the Bowling Green. It was demolished by a mob on July 9, 1776, and the metal was afterward used for molding bullets.



The Story of a Street

III—WALL STREET DURING THE REVOLUTION

BY *FREDERICK TREVOR HILL*

A TRAVEL - STAINED horseman journeying down Broadway on Tuesday, May 17, 1774, turned his jaded mount to the left on reaching Trinity Church and passed into Wall Street unrecognized and scarcely noticed. The man was evidently a stranger, but cosmopolitan New York, with a population of nearly twenty-five thousand, was accustomed to the presence of strangers, and there was nothing in the appearance of this one to attract attention beyond the fact that his clothes, saddlebags, and horse were encrusted with mud, and that his tired animal suggested a long trip over difficult country. The rider himself, scarcely less exhausted than his horse, was a sturdily built fellow about forty years of age, with a clean-shaven, rather commonplace face, and the undistinguished bearing of a farmer or petty merchant. Certainly no one would have supposed him to be a man of artistic temperament or heroic mould, and yet he was an artist of no mean calibre, and his crudest sketches were destined to be cherished by future generations of hero-worshippers, for within a year he was to win undying fame and provide a stirring theme for song and story. Wall Street, however, saw no shadow of the coming event, and Paul Revere, illustrator and engraver, dentist, merchant, goldsmith, soldier, and "Constitutional Post-rider," passed quietly on his way, staring curiously at the busy scene unfolded to his gaze.

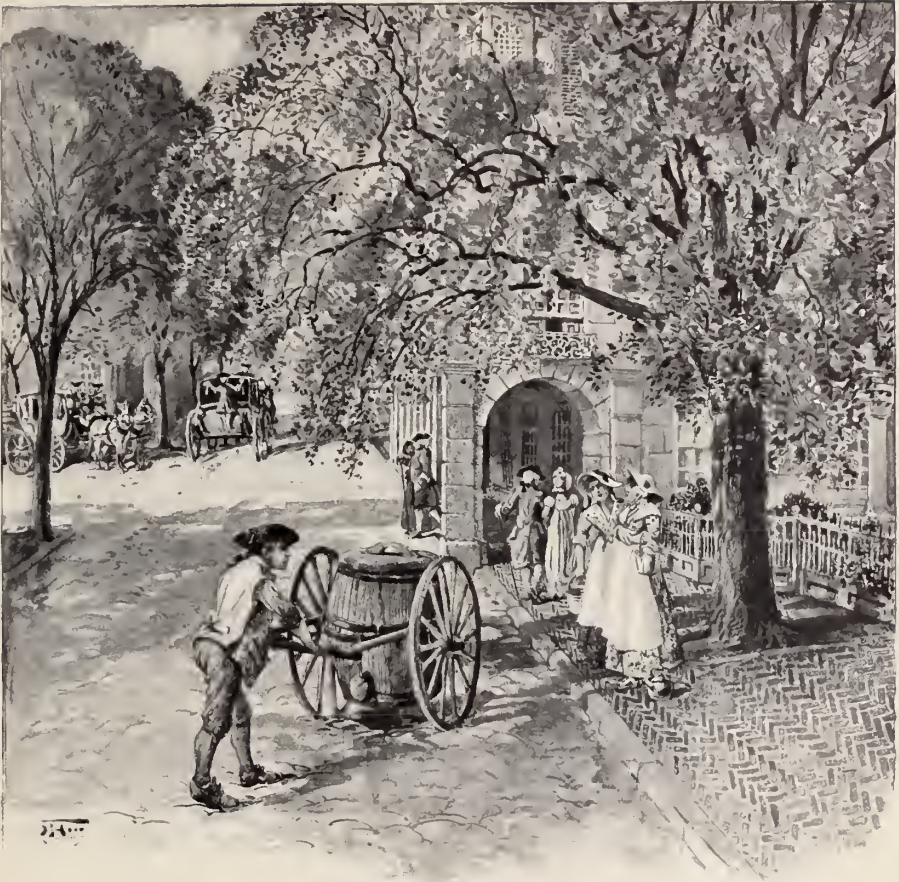
There must have been much that was strange and diverting to the provincial in the passing throngs—the venders of tea water from the pump near the Collect pond, with their crude hogsheads carried in carts or set on wheels, the clumsy travelling coaches, the sedan chairs, the gorgeously uniformed officers and officials, the groups of sombrely at-

tired merchants—all the life and movement of the bustling commercial and official centre must have afforded a novel contrast to quiet Boston, with her port practically closed and her commerce almost dead. Yet, unfamiliar as his surroundings were, this was not Revere's first visit to New York. Less than six months before he had carried the news of the Boston Tea Party to the local Sons of Liberty, but their headquarters were then near the Fields,* and this was possibly his first view of the street which was now almost without a rival in the fashionable quarter of the town.

Before him stretched a neat and attractive thoroughfare lined with stately shade trees and handsome houses, whose dignified appearance demonstrated that their owners were men of substance, if not of fashion. At his left the Presbyterian Church still maintained its commanding position, and just beyond it lay the reconstructed City Hall, its upper stories, supported by arches, forming an arcade through which the pedestrians passed; but the hideous sugar refinery which had disfigured the neighborhood for many years had at last disappeared, and the Verplanck mansion and other handsome private dwellings now occupied its site. Beyond these on the same side of the street lay the McEvers mansion, before which the Stamp Tax rioters had paused in their wild march some nine years earlier, and in front of which now stood Pitt's marble statue, the work of Wilton, a famous sculptor, while in its immediate vicinity ranged the comfortable residences of the Thurmans, Banckers, Ludlows, Startins, Winthrops, Whites, Janeways, and other citizens of credit and more or less renown.

Riding by these attractive homelike houses, Revere must have passed that

* Present City Hall Park.



WALL STREET IN 1774

To the right is the arcade of the City Hall; at the left the head of Broad Street, in the foreground a vender of tea water from the pump near the Collect pond

of his friend and correspondent, John Lamb,* one of the most active members in the Sons of Liberty, whose ceaseless agitation of popular rights had for some years been forcing the hands alike of friends and foes. Indeed, if any one individual could have been held accountable for the exciting scenes which Wall Street had recently experienced, the responsibility would probably have been laid at Lamb's well-appointed door. In fact, on the very day when Revere and his fellow masqueraders were destroying the

* Griswold, in his *American Court*, claims that Whigs like Lamb obtained no foothold in Wall Street till after the Revolution, but there is evidence that Lamb was an exception to this rule.

cargoes of the East India Company in Boston Harbor, John Lamb was rousing the merchants of New York to similar violence in the City Hall; and had a tea ship arrived in the port at that juncture there is no doubt that his Wall Street audience would have quickly organized a Tea Party without paint or feathers. Fortunately or unfortunately, however, no vessel had appeared at that crisis; but about four months later, when the *London* sailed into the harbor, a vigilance committee promptly boarded her without the least effort at disguise and bundled her objectionable merchandise into the sea. This had occurred on Friday, April 22, 1774, and the very next day Wall Street witnessed an exhibition

To the PUBLIC.

THE Sense of the City relative to the Landing the India Company's Tea, being signified to Captain Lockyer, by the Committee, nevertheless, it is the Desire of a Number of the Citizens, that at his Departure from hence, he should see, with his own Eyes, their Detestation of the Measures pursued by the Ministry and the India Company, to enslave this Country. This will be declared by the Convention of the People at his Departure from this City; which will be on next Saturday Morning, about nine o'Clock, when no Doubt, every Friend to this Country will attend. The Bells will give the Notice about an Hour before he embarks from Murray's Wharf.

By Order of the COMMITTEE.

NEW YORK, APRIL 21st, 1774.

BROADSIDE ANNOUNCING CAPTAIN LOCKYER'S DEPARTURE AND SUMMONING CITIZENS TO
MURRAY'S WHARF ON WALL STREET

From Original in possession of the New York Historical Society

of the popular temper as unique as it was significant.

About the same time that the *London* came to anchor in the lower bay another vessel, known as the *Nancy*, arrived with a cargo of tea, imported expressly for the purpose of testing the strength of the non-importation agreement. Her commander, Captain Lockyer, made no secret of his mission, and the vigilance committee finally permitted him to visit the city for the purpose of consulting his consignees; but when those gentlemen prudently refused to receive his cargo the worthy captain was ordered to sail for England at the earliest possible moment.

Meanwhile notices had been posted throughout the city summoning all friends of the country to assemble on Murray's Wharf at the foot of Wall Street on the day of Lockyer's departure and give him a send-off which he would be likely to remember and report to his friends across the sea. Accordingly at eight o'clock on Saturday morning, April 23, bells began ringing all over the city, more and more joining in the chorus, until every clapper in town was swinging

save those of the loyal City Hall and King's College, and at this prearranged signal all sorts and conditions of men began streaming toward the rendezvous, some of them accompanied by brass bands, and all the shipping on the river front displayed its brightest bunting. For an hour the crowds continued to pour into Wall Street, massing in front of the Merchants Coffee House on the southeast corner of Wall and Water streets, where the offending mariner had taken up his abode, and when he showed himself on the balcony in the custody of a committee of citizens a deafening roar of cheers and a bedlam of bells greeted his appearance. No disorder of any sort was attempted, however, and when quiet was restored the committee solemnly introduced their victim to the crowd and signalled the bands, which burst into "God Save the King." During this demonstration of loyalty the captain was escorted with great ceremony into the street, where a lane was forced for him through the cheering multitude to the wharf, where he boarded a pilot boat, accompanied by a deputation charged

To the PUBLIC.

NEW-YORK, OCTOBER 5, 1774.

BY Mr. Rivere, who left Boston on Friday last, and arrived here last night, in his way to the General Congress, we have certain intelligence that the Carpenters and Masons who had inadvertently undertaken to erect barracks for the soldiers in that town, upon being informed that it was contrary to the sentiments of their countrymen, unanimously broke up, and returned to their respective homes, on the 26th of last month; which, it is hoped, will convince the Mechanics of this city, how disagreeable it will be to the inhabitants of that place, for them to afford any manner of assistance to those, who are made subservient to the destruction of our American brethren.

Printed by JOHN HOLT, near the COFFEE HOUSE.

BROADSIDE ANNOUNCING AN ARRIVAL OF PAUL REVERE'S IN NEW YORK

From Original in possession of the New York Historical Society

with the duty of seeing him safely off Sandy Hook, and amid the booming of cannon and other wild demonstrations of rejoicing he sailed away to carry the news of his significant reception to ears that would not hear.

These events must have been known to Paul Revere, and possibly they were in his mind as he jogged through Wall Street,* for he was the accredited messenger not only of the Sons of Liberty, but also of the Committee of Correspondence, and it was at their unofficial headquarters, the Merchants Coffee House, that he undoubtedly alighted.

Of all the historic buildings which figure in Wall Street's story, this unpretentious tavern is fairly entitled to

a place apart. Erected about 1740,* on what was then practically the water's edge, at a time when privateersmen and other adventurous sons of the sea frequented the port to compare notes and transact business of a kind best consummated over a glass of grog, behind walls devoid of ears, it had immediately become a sort of maritime exchange whose secrets never leaked and whose rear doors were exceedingly convenient for customers who preferred to be within hail of their small boats. With the passing of the privateersmen and other less admirable waterside characters, however, it gradually developed from a sailor's snug harbor into a place of general resort whose patrons were so fastidious that the adjoining slave market had to be removed for their benefit,† and from

* The first reference to this historic building appears to be in the *Weekly Post Boy*, January 16, 1744 (No. 52, page 4), where it is mentioned in an advertisement dated November, 1743.

† "Said Meal (Slave) Market greatly Obstructs the agreeable prospect of the East

* The exact route followed by Revere cannot now be positively identified. He left Boston May 14, 1774; was almost three days on the road; entered the city by the Bowery, or Boston Post Road; and his despatch was for the Committee of Correspondence, some of whose members were usually to be found at the Merchants Coffee House.

that time onward its popularity steadily increased, until its guests included all the best people in the community and its influence was that of a civic forum.

There was nothing imposing either in the exterior or the interior of this celebrated inn. All that is known of its outward appearance is that it was a three-storied structure, with a large room on the first floor, another on the second, a piazza or balcony on the front, and a platform or porch on the side, and its interior appointments were in keeping with this very modest architectural plan. The two "long rooms," however, witnessed many a famous meeting and consultation, and their part in the prelude to the Revolution was of the first importance. Here it was that the demonstrations against the military occupation and rule of Boston had taken place in 1769; here some of the most interesting conferences of the Friends of Liberty and Trade were held; here Isaac Sears and other radicals urged the seizure of the stamps; here Lockyer was accorded his mock reception; here began the demonstration against the closing of the port of Boston which ended in the burning of Lord North in effigy before a crowded balcony; here all the political leaders foregathered; and here, on the 17th of May, 1774, Paul Revere arrived with his despatch to the Committee of Correspondence, just reorganized into the Committee of Fifty.

On its face the message which Revere delivered at this famous tavern was not of extraordinary interest, for it merely reported the resolutions adopted at Faneuil Hall, requesting New York's co-operation in suspending trade with England until the ministry should reopen the port of Boston; but the reply to this communication was epoch-making, for it undoubtedly gave the first impulse to the founding of a national government.

Before the famous post-rider was fairly on the road again, headed for Philadelphia,* a meeting of merchants and

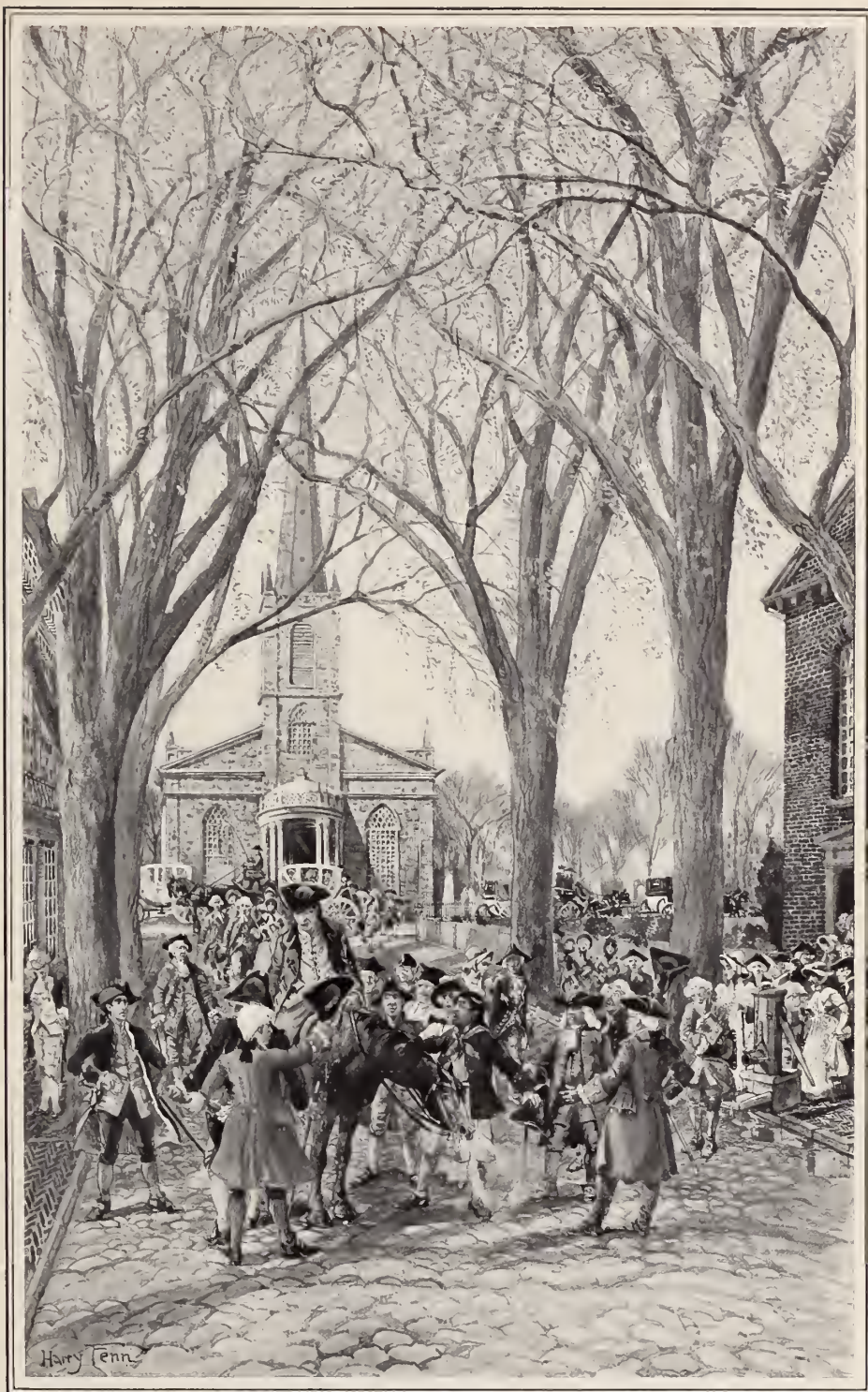
River which those that live in Wall St. would otherwise enjoy: that it Occasions a Dirty Street Offensive to the Inhabitants on each side and Disagreeable to those that Pass and Repass to and from the Coffee House a place of Great Resort." (Min. of Com. Coun. Vol. 6, p. 283. N. Y. City Hall.)

* May 19, 1774.

other citizens was called at the Coffee House to nominate a committee to respond to the proposals contained in his despatch, and the existing Committee of Fifty was reappointed with one additional member. Of the assemblage gathered on this occasion Gouverneur Morris wrote: "I stood on the balcony [of the Coffee House], and on my right hand were ranged all the people of property, with some poor dependents, and on the other all the tradesmen, etc., who thought it worth their while to leave their daily labor for the good of the country." It is characteristic of the man that Morris, then in his twenty-third year, should have made himself the centre of this eventful scene, but he was undoubtedly a leader; for in New York, as in other States, the Revolution was the work of youth tempered by almost precocious maturity of judgment. Among those who, with Morris, were moulding history in Wall Street at this critical period were John Jay, aged twenty-eight; Alexander Hamilton, seventeen; Robert Livingston, twenty-seven; Marinus Willett, thirty-three; Alexander McDougall, forty-three; Isaac Low, thirty-nine; and Isaac Sears, the fire-eating veteran, forty-five. Some of these men were on the committee entrusted with the duty of answering the Massachusetts proposals, and it is doubtful if any other body of citizens ever afforded as rare a combination of youth and intellectual maturity. There were, of course, a few hotheads among them, and Alexander McDougall, disgusted with his associates' conservatism, angrily withdrew and attempted to force their hands. In this he was not successful, but the response which was finally adopted by the majority on the 23d of May, 1774, was certainly not the utterance of timorous senility. Indeed, it was nothing less than the first proposal for a convention of delegates from all the colonies, and when Paul Revere received it on his return from Philadelphia, Wall Street had won historic honors; for of this paper formulated in her famous Coffee House came the Continental Congress.

Less than one year* later Israel Bessel, another post-rider, came spurring into the Bowery road from Boston, breaking the quiet of a Sabbath morning by roar-

* April 23, 1775.



Drawn by Harry Fenn

ANNOUNCING THE NEWS OF THE BATTLE OF LEXINGTON IN WALL STREET
Vol. CXVII.—No. 697.—17

ing startling news at every passing group of citizens; and as the congregations of Trinity and the Presbyterian Church issued from their noonday services he burst upon them with tidings that the battle of Lexington had been fought and won four days before. In an instant he was surrounded by an anxious throng eagerly clamoring for details, and Wall Street was soon in a state of wild commotion, loyalists and patriots scattering to protect their families and property, each man suspecting and fearing the other, and all almost equally dismayed by the news. The patriots were the first to recover from the shock, however, and, headed by Isaac Sears and some of the boldest Sons of Liberty, a band of citizens hastily assembled, and taking possession of the City Hall, seized five hundred stand of arms deposited there for the troops, demanded and received the keys of the Custom House, closed the building, and virtually deposed the royal government.

From that moment all business was suspended in the city, and between April 24 and May 1, 1775, confusion reigned supreme. Then the ablest men in the community assumed control, and calling a mass meeting at the Merchants Coffee House, which had practically become the seat of government, organized a provisional Committee of One Hundred to administer the public business. By the orders of this committee the city was virtually placed under martial law, the shops and factories were closed, the streets were patrolled by improvised bands of militia, all available arms and ammunition were seized, crude preparations were made for resisting an attack, and many timorous loyalists closed their houses and sought safety at their country seats. Meanwhile some of the King's troops had been allowed to enter the city, the loyalist members of the committee feeling that their presence would insure order; but when they made an attempt to appropriate the spare arms deposited in their barracks, Marinus Willett forced an armed guard to surrender this booty, and the carts containing the weapons were triumphantly escorted by a great throng of citizens up Broadway, past the head of Wall Street, to Abraham Van Dyck's ball alley at John Street, where they were placed under lock and key.

Up to this time the leading patriots and loyalists of the city had worked together for the maintenance of order, but, anything more than a temporary truce was impossible, and before long the Committee of One Hundred was split into warring factions and party feeling began to run high. Numerically the patriots were in a vast majority, but many men of property and influence were loud in their expressions of loyalty and bitter in their denunciations of the provisional government, whose legality they stoutly denied. Under such circumstances more or less disorder was inevitable, and residence in the city was made extremely uncomfortable for many of the outspoken loyalists. Indeed, some of the more obnoxious were stripped to the skin and ridden on rails through Wall Street, greatly to the scandal of the highly respectable denizens of that most decorous neighborhood.

Such was the condition of affairs in April, 1776, when Washington arrived to oppose the British forces dislodged from Boston, and under his energetic leadership the active preparations for defence which had already been begun were pushed, until the whole appearance of the town was practically transformed. Fortifications were hastily erected on the water front; batteries were planted at various posts of vantage; breastworks and barricades were thrown across the streets; bullets were cast out of lead taken from the roofs of the houses, and some of the buildings were loop-holed for street fighting and a house-to-house resistance. Of these crude defences Wall Street boasted a battery masked in the cellar of a house on the East River, a breastwork near the Coffee House, and McDougall's battery, which was stationed a little to the west of Trinity, which continued to conduct its services as though nothing whatever had happened. Indeed, the clergy and congregation of that church did not seem to realize that the Revolution was a fact even when Washington arrived upon the scene, but within a few weeks the war was brought home to them in most extraordinary fashion.

The Rev. Charles Inglis was then assistant rector of the parish, and Washington had not been long in the city

before an officious member of his staff called upon the clergyman and requested him to omit the customary prayers for the King, which had been loyally read at all services without the least regard for the existing political conditions. But Mr. Inglis, though a non-combatant, was evidently a believer in the church militant and a most ardent supporter of the crown, for he promptly refused the request, which Washington disavowed as soon as it was brought to his attention. Certainly the King never so needed the prayers of his faithful subjects as he did at that moment, when peace negotiations were impending, but this was not the popular view. Nevertheless the services were conducted for some weeks without alteration or interruption, while the contending forces prepared for what promised to be the bitterest struggle of the war.

One Sunday morning in May, however, a motley crew of about one hundred and fifty armed men, preceded by a fife and drum corps, invaded Wall Street and headed straight for Trinity. Whether they were soldiers or not is uncertain, but they carried bayonets on their guns and were apparently under some sort of military control. Marching to the brisk tap of drums, they passed through the street, crossed Broadway, entered the church, and swept up the aisle, drums beating and fifes shrilling in deafening uproar. Appalled by this desecrating intrusion, the congregation sat aghast, not knowing what to expect, but the white-robed clergyman calmly stood his ground, confronted the invaders, and outfaced them. Indeed, the moment the drums and fifes ceased he proceeded with the services as though nothing had happened, and conducting it with admirable dignity to the very end without the omission of a single word, drove the armed rabble into ignominious retreat.

This was the last, or one of the last, services ever held in the church, however, for its authorities soon thought best to close its doors, and within four months it was totally destroyed by fire. Meanwhile Wall Street listened to the Declaration of Independence, which was read from the steps of the City Hall on the 16th of July, 1776, to a small band of patriots, whose enthusiasm prompted them to invade the court room and tear down

the royal coat of arms, which they then proceeded to burn on the spot where Zenger's *Journal* had been consigned to the flames, thus affording a precedent for wanton destruction that was to cost the city dear before many months had passed. In fact, when the British troops entered the town two months later they looted the City Hall library without mercy, bartering the valuable books for drink, and completely scattering what would now be a unique collection. The statue of Pitt was also wrecked almost beyond recognition, but there were few who regretted its fate, for Pitt had alienated many Americans by his apparent hostility to their independence, and the statue had already been somewhat defaced before the loyalists completed the work of destruction.

With these acts of vandalism Wall Street began a long and bitter experience. Indeed, before the British troops had fairly established themselves in New York the great fire of September 21, 1776, which obliterated a large part of the city, laid Trinity in ruins, and this disaster, wrongly attributed to rebel sympathizers, resulted in such harsh measures against the American residents that many of them fled, abandoning their houses to the enemy.

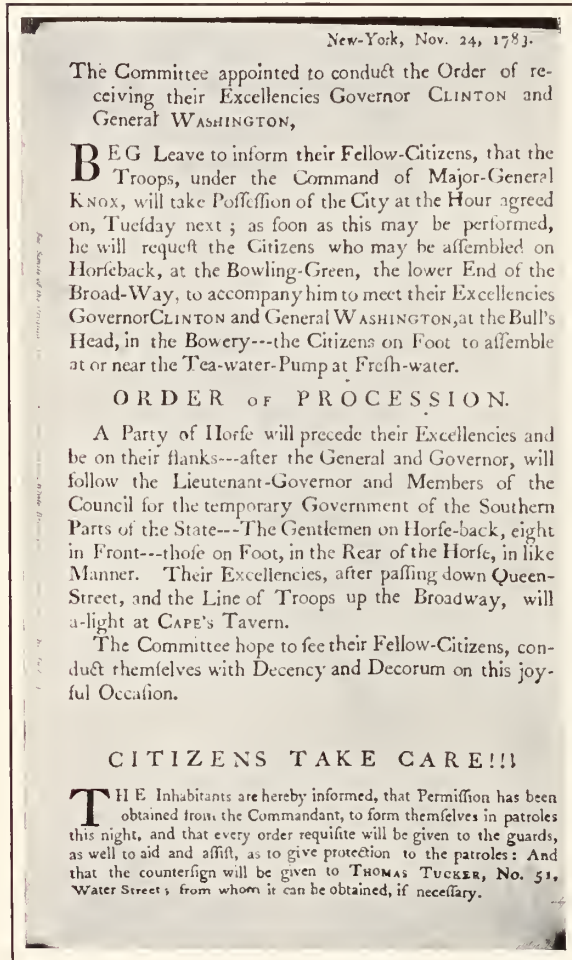
It did not take long for the army of occupation to appropriate all the available property in the street to its own purposes. The City Hall was immediately transformed into a guard-house and prison, and fortunate indeed were those who were incarcerated there, for they received humane treatment and escaped the horrors which were daily enacted in the sugar-houses and hulks where the majority of American prisoners were confined. One of the earliest inmates of this Wall Street prison was General Charles Lee, and it would have been well for him had he been detained there until the end of the war. He was, however, soon set at liberty, and his subsequent conduct not only led to his disgrace, but came perilously close to wrecking the American cause.

Another famous Wall Street building was likewise utilized for the purposes of the army, for the Presbyterian Church was soon pressed into service as a hospital for the British sick and wounded,

and to adapt it to this use it was practically dismantled. These changes, however, merely marked the beginning of the end, for every house vacated by the Americans was immediately placed at the disposal of a British general or official;

summed a military air. General Knyp-hausen, the German commander of the Hessians, took possession of the McEvers mansion; General Robertson, the Royal Governor, established himself in the Ver-planck mansion between William and Nassau streets,* and this same dwelling also sheltered Benedict Arnold for a short time after he turned traitor. General Riedesel, the Hessian, was another commander who resided in the once fashionable highway, and the famous Coffee House quickly became the favorite resort of all the army and navy officers quartered in the town.

Under these conditions the whole aspect of the street gradually changed, its buildings steadily deteriorated, and before long very little remained of its former glory. In the summer of 1779 a feeble attempt was made to turn the grounds surrounding the blackened ruins of Trinity into a place of fashionable promenade, and with this idea they were enclosed with wooden railings painted green, lamps were hung in the trees, under which benches were placed, and concerts were given by the garrison bands, to which only people of quality were admitted. This was the only effort, however, which was made to restore Wall



BROADSIDE ANNOUNCING WASHINGTON'S ENTRY INTO NEW YORK
From Original in Possession of the New York Historical Society

and so great was the demand for residential property for the housing of these gentlemen that the dwellings of all rebels were marked with a broad R to subject them to confiscation.

Wall Street thus practically became the headquarters of the army of occupation, and the entire neighborhood as-

sumed a military air. General Knyp-hausen, the German commander of the Hessians, took possession of the McEvers mansion; General Robertson, the Royal Governor, established himself in the Ver-planck mansion between William and Nassau streets,* and this same dwelling also sheltered Benedict Arnold for a short time after he turned traitor. General Riedesel, the Hessian, was another commander who resided in the once fashionable highway, and the famous Coffee House quickly became the favorite resort of all the army and navy officers quartered in the town.

* Almost on the site of the present Assay Office.

to provide fuel for the families of Generals Knyphausen, Riedesel, and other officers. From this time onward desolation and decay marked the highway for their own, and as the war drew to a close its condition passed from bad to worse; for the British naturally took no pains to preserve the property which they were soon to restore to its former owners, and dirt and débris were allowed to accumulate, until every street was a rubbish heap lined with wrecked, dismantled, or dilapidated buildings.

Such was the condition of Wall Street on the 25th of November, 1783, when Brigadier-General Henry Jackson, in command of about eight hundred men, stationed at McGowan's Pass, set his troops in motion for the Collect, or Fresh Water Pond, on the outskirts of the town, where he halted about noon under the orders of General Henry Knox, deputed by Washington to take possession of New York. At the same hour the rear guard of the British army of 6500 was marching down Broadway to embark for Staten Island, their brilliant uniforms and perfect equipment affording a brave sight for all beholders, and a little later in the afternoon one of Sir Guy Carleton's staff reported to the American commander that the last of his troops were on the transports at the Battery. This was the word which General Knox had been eagerly awaiting, and within a few minutes of its receipt the American column, composed of detachments of Massachusetts infantry, New York artillery, a militia company, and a troop of horse under Captain Stakes, was swinging toward the heart of the city. Down the Bowery road they swept with the stride of seasoned veterans, their motley uniforms encrusted with mud and showing signs of rough campaigning; their tarnished arms and torn colors present-

ing a sharp contrast to the display of the evacuating host. There was every evidence of discipline and training, however, in the movements and carriage of these weather-beaten soldiers, and as they passed through Chatham Square to Pearl (Queen) Street great crowds of enthusiastic citizens welcomed them with cheers, and falling in on either side of the conquering column, accompanied its march.

Then came the great moment for which Wall Street had waited and suffered for over seven years, and up the devastated highway, thronged with a joyous multitude, swung the tattered but stalwart ranks to the businesslike tap of drums and the music of exultant cheers. Onward they swept past the headless statue of Pitt, past shabby dwellings which their exiled owners would scarcely have recognized, past the head of Broad Street where the whipping-post had stood, past the dilapidated City Hall where the Stamp Congress had assembled, up the slight incline down which many a royal governor had paraded and along which countless throngs jostle and hurry to-day, past the dismantled Presbyterian Church where Whitfield and Jonathan Edwards had preached, to the mournful ruins of Trinity. Then, wheeling to the right, these representatives of the victorious armies lined up in Broadway near Cape's Tavern,* bravely displaying the arms of New York State upon its sign, and on that historic spot where Etienne De Lanecy had built his home they halted and stood at parade rest till a salute of thirteen guns announced that the American flag floated over Fort George, and that the Revolution was ended.

On the evening of that day of days Washington attended a banquet in Wall Street. Its golden age was dawning.

* About 115 Broadway.



The Story of a Street

IV.—WALL STREET UNDER THE CONTINENTAL CONGRESS

BY *FREDERICK TREVOR HILL*

WITH the last exultant echo of Evacuation day Wall Street relapsed into the lethargy which had long pervaded the entire community. Many American cities had endured grievous hardships during the war; a few had been pillaged and partially burned; more than one had been practically obliterated; but for seven years New York had been remorselessly exploited to the point of exhaustion. Indeed, the city which the British abandoned in the fall of 1783 bore very little resemblance to the social and commercial centre they had wrested from Washington in the first year of the Revolution. Much of it was in an indescribable state of dilapidation and decay, part of it was in absolute ruins, and all of it was fairly reeking with dirt. In fact, the whole aspect of the place, with its empty houses and vacant streets patrolled by herds of prowling hogs, suggested a deserted village, and this is what it had virtually become. Of the twenty-five thousand inhabitants it had boasted in 1776 not more than twelve thousand remained at the end of the war, and those were by no means the flower of the population. Many of the best people had taken refuge in their country houses at the very first sign of trouble; all the patriots of ability and character had retired with Washington's retreating forces; most of the influential loyalists had anticipated the withdrawal of the royal troops, and between these various emigrations New York had lost all its leading citizens, many of whom had gone never to return. Certainly the remaining residents did not display any extraordinary energy or public spirit after the army of occupation departed, and for some months the wasted city made no effort to revive its commerce or set its dismantled house in order.

By February, 1784, however, a number of familiar faces began to reappear, and early in that month a small group of forceful men gathered in John Simmons' tavern, a little wooden building lying at the northwest corner of Wall and Nassau streets, to install James Duane as first American Mayor of New York. In view of the impoverished condition of the community this public-spirited citizen had requested that the inauguration ceremonies should be conducted without expense or display; but why Simmons' tavern should have been selected for such an occasion is not altogether certain. It is probable, however, that the City Hall, which had served for so many years as a prison, was not yet fit for civic duty, and that the inn was the nearest available meeting-place; but it may well be that the popularity of its proprietor deprived the Merchants' Coffee House of adding this event to its long list of historic honors, for John Simmons was something of a local celebrity.* Indeed, the fat, good-natured countenance of this rotund Boniface was for many years one of the familiar sights of Wall Street, over which he used to preside, squatting on his doorstep and exchanging salutations with all the passers-by, and the story that part of his tavern had to be torn down to remove his ponderous body when he died is a well authenticated tradition of the times.

James Duane, who was thus uncereemoniously invested with the chief magistracy, was a man of wealth and refinement, whose long and efficient public service thoroughly qualified him for his task; and the other officials who were sworn in as his associates were energetic

* Washington attended a banquet at Simmons' Tavern on the evening of Evacuation day.

citizens whose achievements were already upon record. Marinus Willett, who became Sheriff, was the Revolutionary hero who had halted the British troops in Broad Street at the beginning of the war and prevented them from appropriating the arms of the local garrison. Richard Varick, who was appointed Recorder, had been one of Washington's junior secretaries, and had also served under General Schuyler; and Daniel Phoenix, who undertook the office of Chamberlain, was a merchant whose services as a member of the Sons of Liberty and the Committee of One Hundred entitled him to a high place in the public confidence. In fact the task of establishing order out of chaos could scarcely have been placed in stronger hands, and the whole town assumed a more cheerful air as soon as the new government entered upon the performance of its arduous duties.

Business was, of course, practically dead, but the Chamber of Commerce had been keeping up a flicker of life with its meetings at the Merchants' Coffee House, and on April 13, 1784, it was duly incorporated by the New York Legislature, and immediately began systematic work for a revival of trade. There was one field of activity in the prostrate city, however, which needed no encouragement, and that was litigation. Throughout the city the ownership of property was in serious dispute, and what with the conflicting colonial and State laws and the various confiscations, restorations, seizures, and claims under cover of military authority, no one knew what his rights or liabilities were, and confusion reigned supreme. Moreover, in the face of these legal tangles and complications all the Tory advocates had been disbarred, and for once at least in the history of New York the supply of lawyers did not equal the demand.

Into this land of promise two newly fledged lawyers hurried in the winter of 1783, and among the first shingles displayed on Wall Street was that of Alexander Hamilton, while almost around the corner Aaron Burr began his brilliant and eventful professional career.* Had the latter been less resourceful and energetic,

however, he would not have been numbered among the earliest arrivals, for the rules governing admission to the bar were strict, and he had served less than one of the required three years' legal apprenticeship. But no such obstacle could daunt a man of Burr's calibre, and he straightway journeyed to Albany and presented his case before the court in person. He could have completed his apprenticeship years ago, he argued, had he not been employed in the service of the army, and no rule could be intended to injure one whose only misfortune was having sacrificed his time, his constitution, and his fortune to his country. This appeal naturally won the court, and the rules having been suspended, the candidate easily passed the required examination and hastened to New York, where he speedily acquired an enormous practice. Indeed, for a time Burr and Hamilton had few rivals in the field, but in July, 1784, John Jay* returned from a successful mission to Europe, and with his advent, which was marked by a public reception in Wall Street and the presentation of the freedom of the city, a formidable competitor for legal honors was added to the rapidly growing list. But although the roll of the bar soon included over forty practising attorneys, Hamilton and Burr virtually had the pick and choice of business, and the judgment displayed by each man in exercising his preference was exceedingly characteristic, for Burr never took a case unless he felt sure of winning it, and Hamilton would advocate any cause in which he thoroughly believed. In fact, he had not been long in practice before he risked his popularity and even imperilled his life by defending a rich Tory sued by a poor woman under the terms of the Trespass Act.† This law had been passed for the express purpose of penalizing loyalists, and no better opportunity for aiding a needy citizen at the expense of the common enemy had yet occurred. Under such circumstances the defence was not only a forlorn hope, but a most ungrateful task. Yet Hamilton boldly attacked the law, declaring that it violated the provisions of the treaty of

* Hamilton's office was at No. 58 (now 33) Wall Street. Burr's was at No. 10 Little Queen (Cedar) Street.

* Jay's office was at No. 8 Broad Street.

† This case was known as *Rutgers vs. Waddington*.



Drawn by Harry Fenn

WALL STREET IN 1784

Based on records and prints in Lenox Library and New York Historical Society. In foreground is the tavern at corner of Wall and Nassau streets; adjoining it the dismantled Presbyterian Church; at the intersection of Broadway the ruins of Trinity are indicated.

peace guaranteeing protection to the Tories in the enjoyment of their property rights, and so ably did he present his case that he carried the day in spite of popular clamor. This notable legal triumph was achieved in the Mayor's Court, which was then held in a small building at the southwest corner of Wall and Broad streets, and here many of New York's most famous lawyers received their preliminary training. The men with whom Wall Street thus became acquainted, besides Burr, Jay, and Hamilton, were James Kent, Brockholst Livingston, Morgan Lewis, Robert Troup, Egbert Benson, Abraham de Peyster, Josiah Ogden Hoffman, and John Lawrence, some of whom were destined to become jurists of international fame, and many of them were soon engaged in re-establishing credit and promoting plans for civic betterment. Early in 1784 the Bank of New York was organized under Hamilton's guidance at the Merchants' Coffee House,* and that same historic building had the honor of witnessing the first practical movement against slavery; for there, close to the site of the old slave-market, were held the early meetings of the Society for the Manumission of Slaves, of which Jay subsequently became the president.

Meanwhile Wall Street had been gradually clearing away its seven years' accumulation of dirt and wreckage, and by June, 1781, the Presbyterian Church, which had been practically dismantled in transforming it into an army hospital, was sufficiently repaired to welcome its returning congregation. No immediate effort was made, however, to rebuild Trinity, and for some years its melancholy ruins stared down a sadly dilapidated highway. Of course the houses which had once been its pride were still standing, but they had been roughly handled, and their owners could not afford to put them in proper condition; so the street remained shabby and neglected, and such was its condition when the Continental Congress announced its intention of making its headquarters in New York. Here was a great oppor-

tunity for the struggling city, for the presence of Congress, impotent as that body had become, undoubtedly enhanced its importance and prestige, but the civic authorities were ill prepared to take advantage of the opportunity. Indeed, there were no suitable accommodations available for the visiting legislators, and the City Hall, which was finally placed at their disposal, was not much more than habitable. Nevertheless, the municipality offered the best it had, surrendering virtually the whole of the renovated City Hall and removing its own officials and records to the building on the southwest corner of Wall and Broad streets, which housed the Mayor's Court. Thus in 1785 all the representatives of the national as well as the municipal and State authority were concentrated in Wall Street,* and here daily congregated such men as John Hancock, Rufus King, Nathan Dane, Charles Pinckney, Richard Henry Lee, James Monroe, James Madison, and other distinguished statesmen of national repute, who with the lawyers and city officials in the building on the opposite corner constituted the Wall Street men of their day.

The presence of the Continental Congress and the steady influx of visitors soon brought about a sharp demand for accommodations in the residence section of the city, and while the price of almost everything else was falling, rents in Wall Street rose so that it was impossible to obtain even a very modest dwelling for less than £70 and taxes—an exorbitant figure in those days,—and this naturally affected the price of land. Not many sales occurred, however, for in 1786 the street experienced what was probably its first financial panic, and such was the stringency in the money market that cash practically disappeared from circulation. Indeed, credit throughout the whole country was almost suspended, and the conflicting laws of the various States discouraging business enterprise and threatened the complete extinction of trade.

* Here on July 13, 1787, was passed the famous ordinance which dedicated the great Northwest to freedom, and virtually determined the slavery struggle which was even then beginning.

* The bank was first housed in the Walton Mansion, 156 Queen (Pearl) Street; later at 11 Hanover Square, and later still at No. 48 Wall Street.

Such was the situation when the great struggle began for the formation of a permanent national government, and into this contest Hamilton plunged with the ardor of an enthusiast and all the unselfishness of a true patriot. There was much in the proposed Constitution which he did not approve, and his splendid legal practice could not be neglected without great personal sacrifice; but from the fall of 1786 to the summer of 1788 he worked unremittingly with voice and pen for the cause of the Union, and it was during this critical period that he wrote and published the famous Federalist papers which so profoundly affected the result. No less than sixty-three of those eighty-five brilliant essays were written by Hamilton in his office, No. 33 (then 58) Wall Street, and had the highway no other claim to historic interest its association with that epoch-making achievement would suffice to assure it national fame. Despite the stupendous efforts of the Federal leaders, however, and the strong support of almost the entire city, there seemed very little chance that the State of New York would ratify the Constitution, for the country districts were bitterly opposed to its adoption, and their representatives commanded a majority of the votes. Nevertheless, Hamilton continued to fight with unabated courage, and on the 26th of July, 1788, he succeeded in turning the hostile majority into a minority by a narrow margin of three votes, and returned triumphant to the city, where great crowds gathered in Wall Street and welcomed him with cheers, while all the bells in town were rung and a salute of eleven guns was fired in his honor.

Four weeks after this momentous vic-

tory Wall Street was alive with workmen removing the blackened ruins of Trinity Church and tearing down the City Hall, which was to be virtually transformed into a new structure dedicated to the use of the first Congress of the United States. The task of designing this building and superintending its erection was entrusted



OLD WATCH HOUSE

At the southwest corner of Wall and Broad streets, on the site of the famous Mayor's Court

to Major Pierre Charles l'Enfant, a French engineer who had served in the Revolution with great distinction under Baron Steuben, and was to win undying fame by planning the future capital of the nation.* The edifice which this distinguished architect located on the site now partially occupied by the Sub-Treasury Building and the southern end of Nassau Street, was fated to have a very short history, and the only mark it or its famous predecessors have left is the curious jog in the northwest corner of Wall and Nassau streets, which marks the turn of the lane or alley bounding their western foothold. But at its inception New York believed it was to be a monument for the ages, and this idea was fairly justified. Certainly no build-

* L'Enfant is also credited with having designed a portion of St. Paul's Church.

ing of such imposing proportions or such artistic design had ever been projected in any American city, and the sum expended on its construction was wholly unprecedented; but the speed with which it was erected and the quarrels between the architect and contractors undoubtedly resulted in bad workmanship and sealed its doom. At its completion, however, it not only realized but surpassed all expectations; for its exterior effect, with its stately arches and classic columns, was exceedingly dignified and imposing, and the interior decorations were the wonder and admiration of all beholders. Indeed, the marble pavement, the painted ceilings, the crimson damask canopies and hangings and handsome furniture, were considered altogether too magnificent by the anti-Federalist press, which saw in them new proofs of the aristocratic tendencies of the new government, and bitterly attacked the distinguished architect, who in the end received little glory and no pay for his services.*

It was the 3d of March, 1789, before the Recorder formally tendered the build-

*The Common Council offered L'Enfant \$750 or a grant of city lots (which are to-day of great value) and the Freedom of the City. He deemed these provisions wholly inadequate, however, and refused to accept them. It is interesting to note that Washington

ing to Congress,† but very few of the Senators or Representatives had then himself evidently found L'Enfant rather difficult during the building of the Federal City, as the national capital was then called, for in one of his letters he writes: "It is much to be regretted, however common the case is, that men who possess talents that fit them for peculiar purposes should almost invariably be under the influence of an untoward disposition or are sottish, idle or possessed of some other disqualification by which they plague all with whom they are concerned. But I did not expect to have met with such perverseness in Major L'Enfant.

† Philadelphia was even then showing jealousy of New York, as appears from the following letter addressed to Recorder Richard Varick:

"Dr. Sir,—It is in my opinion entirely necessary that the Common Council should be convened this day in order to pass an act for appropriating the City Hall to the use of Congress. The act should be published in the papers and notified by yourself, or if you are not well enough, by a committee or member of your board to the Senators and Representatives as they arrive. The Philadelphians are endeavoring to raise some cavils on this point. The thing must not pass the day. For propriety absolutely requires that the members should be offered a place by to-morrow which is the day for assembling.

Yrs

A. HAMILTON.

"March 3rd, 1789.

"To Richard Varick, Esqr."

From original (hitherto unpublished) MS. in collection of the Hon. John D. Crippins.



WALL STREET IN 1789

Federal Hall is shown at the head of Broad Street



FEDERAL HALL

Erected on Wall Street in 1789 for the use of Congress.
On the balcony Washington took the Presidential oath

arrived in the city, and on the day appointed for the opening session there was no quorum in either House. Indeed, it was not until the 30th of March that the House of Representatives organized, with Frederick Augustus Muhlenberg, of Pennsylvania, in the Speaker's chair, and six more days elapsed before proceedings were initiated in the Senate. On that day, however, the Congress performed its first important duty, and the following morning a brief paragraph in the daily papers announced that a canvass of the electoral vote taken in Federal Hall on Wall Street April 6, 1789, had resulted in the unanimous election of Washington as first President of the United States, and that John Adams, as recipient of the next highest vote, had been declared Vice-President.

From that time forward the city was in a flutter of excitement and expectation, and the plans for Washington's reception were discussed on every side. Even the arrival of Adams on April 20th

and his formal installation on the 21st, though attended by highly dignified ceremonies, attracted scarcely any attention, and the news of the ovations which Washington was receiving on his journey from Virginia stimulated the citizens to make New York's welcome worthy of the greatest event in its history. Certainly Wall Street, which had completely recovered its prestige, rose to the occasion, and a brave sight it presented to the crowds which invaded it on the morning of April 23, 1789. From the East River to the rapidly rising Trinity Church flags and banners waved from every building, many of which were also decorated with wreaths of flowers and branches of evergreen; the stairs of Murray's Wharf were carpeted and the rails hung with crimson cloth, and on the pediment of Federal Hall appeared a colossal eagle grasping thirteen arrows and bearing the arms of the United States, which had been recently installed with imposing ceremonies

as a finishing touch to the Congressional building.

Washington arrived at Elizabethtown Point, New Jersey, by nine o'clock on the morning of the 23d, but it was three o'clock in the afternoon before the roar of cannon and clashing of bells announced to the assembled throngs that his magnificent state barge, manned by thirteen pilots in white uniforms, had been sighted in the East River, and by that time the whole water front was black with humanity and every roof and window crowded to its utmost capacity. On swept the barge with an accompanying wave of cheers toward the Wall Street wharf, from which Captain Lockyer had made his ignominious exit fifteen years before, and as it swung alongside that historic landing-stage* the bands joined the bells and the cannon in tumultuous welcome. Then the man upon whom all eyes centred rose from his place in the stern of the barge, his plain uniform of buff and blue contrasting sharply with the crimson trappings of the stairs, and as his hand touched the rail the thunderous roar of cheers which greeted him silenced the music and the bells. Then on foot through that seething crowd, declining the carriage provided for his use, Washington passed, amid the acclamations of the assembled thousands, up Wall Street to Queen (Pearl), and thence through that thoroughfare, whose sidewalks were so wonderfully wide that "three persons could walk abreast," to the Franklin House, which had been prepared for his reception.

Thus ended this day of rejoicing, but during all the following week the city was agog with excitement, for from every direction and in all sorts of conveyances visitors kept arriving upon the scene, until every tavern and private dwelling was filled to overflowing, and even the meanest accommodations commanded extravagant premiums. Meanwhile more Senators and Representatives were making their appearance in Federal Hall, and such men as Oliver Ellsworth, Robert Morris, Samuel Otis, Roger Sher-

* Among those waiting on the wharf were Governor Clinton, Colonel Morgan Lewis (subsequently Governor of New York), the Mayor and other civil officials, the French and Spanish Ambassadors, and many army officers.

man, James Madison, Jonathan Trumbull, Richard Bland Lee, Elbridge Gerry, William Samuel Johnson, John Page, and others whose names were or were to become famous in the history of the nation, could be daily seen in Wall Street discussing questions of state etiquette and ceremonial and other details of the impending inauguration. Indeed, all the preparations for this great event had not been completed when the day arrived; and when church bells began summoning the people to their various places of worship for the special services ordained for the morning of April 30, 1789, the Congressional committees hastily convened to perfect their arrangements. Meanwhile part of the inaugural procession formed in front of Federal Hall, and by the time the congregation of the Presbyterian Church issued from their services they found Wall Street ablaze with bunting and festooned with evergreens, and densely packed with spectators who blocked every approach and crowded all the neighboring roofs and windows. It was twelve o'clock, however, before the procession started from the Presidential mansion, and even then the two Houses of Congress were still discussing with some heat and no little confusion the manner in which they should receive Washington and the form in which he should be addressed. Thus another hour slipped by, the dense crowds massed in Wall and Broad streets maintaining perfect order; and finally at one o'clock the head of the procession hove in sight, moving from Great Dock (Pearl) Street into Broad, Captain Stakes and his troopers easily parting the cheering multitude. Within a short distance of Federal Hall the Presidential carriage halted, and Washington, escorted by General Samuel Blatchley Webb (the Beau Brummel of the town), Colonel Nicholas Fish, Colonel William Smith, Colonel Franks, Major Leonard Bleecker, and John R. Livingston, passed through the double line of troopers to the Senate-chamber, followed by the other committees and guests of honor in dignified procession.

Then something very like a panic ensued among those in charge of the arrangements, for not until this critical moment was it discovered that an im-



WALL STREET FROM WATER STREET TO THE EAST RIVER ABOUT 1790

portant detail had been completely neglected and that, there was no Bible in Federal Hall for the administration of the oath. Chancellor Livingston, however, rose to the occasion, and, hastily despatching a messenger to St. John's (Masonic) Lodge at 115 Broadway, procured the necessary volume, and in a few moments Washington stepped upon the balcony fronting on Wall Street. For an instant he stood in full sight of the assembled multitude, but the wild outburst of cheering which greeted his appearance drove him a step backward, visibly affected. He was dressed in a suit of dark brown cloth with metal buttons ornamented with eagles, his stockings were white silk, and his shoe buckles silver. At his side he carried a simple steel-hilted dress sword, his powdered hair was worn in the fashion of the times, and close beside him stood Chancellor Robert Livingston, wearing his official robe. Grouped about these two men stood John Adams, George Clinton, Roger Sherman, Baron Steuben, Samuel

Otis, Richard Henry Lee, General Arthur St. Clair, and General Knox, and behind them, but not visible from the street, stood members of Congress and other distinguished witnesses.*

There was a moment's pause as the company took their positions, and then Samuel Otis, the Secretary of State, carrying a crimson cushion on which rested the hastily borrowed Bible, presented it to the Chancellor, who administered the oath; whereupon Washington kissed the book, and the official proclamation, "Long live George Washington, President of the United States," ended with a thunderous crash of artillery and a renewed burst of cheering.

Such was the day of glory which made New York the capital of the nation, in which for a brief but brilliant period Wall Street was to reign politically and socially supreme.

* Alexander Hamilton watched the scene from the window of his house on the opposite side of the street. Washington Irving, then six years of age, was also among the spectators.

Romney's Portrait of Miss Gordon

ROMNEY had the gift of expressing the personality of his sitters. With a fondness for the mystical, he loved to paint religious and mythological compositions, but these are forgotten to-day, and he is only known by his portraits, in which his imagination was kept in check by the demands of his subjects. Though lacking in mental power, he made the women who sat to him appear splendid in their beauty by infusing his work with something of his own mystical gifts. They always show elegance, sentiment, and an elusive sweetness. He was particularly fond of painting them in white drapery, which he managed most artistically. This portrait, from the collection of Mr. George A. Hearn, is that of Miss Eleanor Gordon, a woman whom Romney seems to have painted several times. It shows that fortunate combination of sensuous attractiveness and meditative reserve usually found in his portraits.

While modern collectors pay small fortunes for his work, Romney had almost continuous struggle to keep the landlord and the grocer from his door. Even when he became the fashion and the rival of Reynolds, who was wont to speak of him contemptuously as "that man in Cavendish Square," he received only eight guineas for the brilliant half-length portraits so greatly prized to-day. Though he had numerous sitters, many of his canvases remained unfinished through neglect, or want of funds, on the part of those who ordered them. Lacking the worldly wisdom of his great rival, his vogue was but short lived, since he refused to exhibit his work. Never during his life, nor until sixty-nine years after his death, did one of his canvases appear on the walls of an Academy Exhibition, so that when he died in 1802 he had already been forgotten. Withholding himself from the tumult of London, this shy, suspicious soul of imaginative temperament buried himself in the remote Northern country, his art and his mind both in eclipse.

W. STANTON HOWARD.



PORTRAIT OF MISS GORDON, BY ROMNEY

Engraved on Wood by Henry Wolf from the Original Painting

The Story of a Street

V.—WALL STREET AS THE CENTRE OF FASHION

BY FREDERICK TREVOR HILL

NEW YORK was flooded with visitors during the opening year of Washington's administration, and to many of them the cosmopolitan city of thirty thousand inhabitants must have been an astonishing and not altogether agreeable revelation. Certainly its accommodations for transients left something to be desired, for it had never recovered from the effects of the war; its houses and streets were in a lamentable condition, and sore discomfort was apt to be the portion of those who tarried within its gates. Indeed, the only quarter of the national capital which escaped the bitter complaints and scornful descriptions which are recorded at length in the diaries and correspondence of the day was Wall Street. For that well-ordered highway, however, even the most disgruntled strangers often had a word of praise, especially those who viewed it on fine afternoons from Daniel McCormick's doorstep. Of course only a favored few were privileged to join the charmed circle of that prince of bachelors, but the guests invited to view the passing throngs from the point of vantage of No. 39,* on the south side of the street, witnessed a uniquely interesting scene in the company of people who knew everybody and everything about everybody, and could appraise to a nicety the social standing of all the passers-by. In fact, McCormick's hospitable mansion was the news centre and clearing-house for gossip of the fashionable world of which Wall Street was the centre in the first year of the republic.

* This is the old numbering of the street. It is very difficult to locate the corresponding house numbers of the street as it exists today, as there was no regularity or sequence in the numbers until late in 1790. No. 5 was, however, apparently at the northwest corner of Wall and William; No. 20 was one of the corners of Wall and Water; No. 32 was near the Coffee House; No. 44 one door east of the northeast corner of Wall and William; and No. 81 one of the opposite corners.

Prior to the war the social prestige of the thoroughfare had been second only to Pearl Street,* but that famous highway, though it still boasted the finest houses in the city, had seen its best days, and politically, socially, and historically its rival now reigned supreme. Outwardly the appearance of Wall Street was not as attractive as it had been ten or fifteen years earlier, for few of its splendid shade trees remained, and that artistic feature had gone, never to return, for the local authorities had passed an ordinance imposing a penalty of five pounds for planting a tree anywhere below Catherine Street, except in front of a church or other public building, and no one seemed inclined to dispute the wisdom of this law.

From an architectural standpoint, however, its condition was vastly improved, for Federal Hall was far more imposing than the old City Hall, and Trinity, which had risen from the ashes of the former building, was altogether more dignified and impressive than its predecessor. Moreover, the whole aspect of the street was more settled, substantial, and uniformly residential than it had previously been, for, with the exception of Baker's Tavern, the headquarters of a club at the corner of New Street, a few shops like Adam Prior's, the fashionable eater at No. 59, and Panton's, the leading jeweller, at No. 38, and the public buildings and churches, almost every house from Broadway to Pearl Street was a dignified private dwelling displaying the little oval tin plate which indicated that it had been duly insured in the Mutual Assurance Company against fire.

* At this time Pearl Street was only known as such from the present State Street to Broad. From Broad to Wall it was called Great Dock Street; from Wall to Chatham it was Queen Street. The finest houses were in the Great Dock Street section.

It was not the Wall Street of brick and stone, however, which fascinated those who viewed it on gala days from Daniel McCormick's high doorstep. What interested them was the panorama of life, the constantly changing figures, the gay colors, the quaint characters, the men of mark, the fashions and foibles—all the human elements of the miniature Vanity Fair that strutted and plumed itself on the fashionable promenade through which there swirls to-day a hurrying stream of life. Here approached a remarkable old gentleman gowned in a black clerical robe and bands, and wearing a white buzz wig, a three-cornered hat, and silver shoe-buckles, who threaded his way through the crowd, representing all the city could boast of worth, wit, and culture, with a masterful clumping of his gold-headed cane upon the pavement, and the most ceremonious of salutations to right and to left. Any one of McCormick's coterie could inform the uninitiated that this was the Rev. Dr. John Rodgers, of the Presbyterian Church, a patriot it well became one to know, and a gentleman of such majestic dignity that he seldom appeared in public without his official robes, and rumor had it that he and his wife exchanged a formal bow and a deep courtesy each night when they retired. Here, too, appeared another gentleman of the old school in a scarlet coat and cocked hat, enthroned on the cushions of a quaint pony phaeton, from which he surveyed the moving throng with a proprietary air, his hands resting proudly upon his massive cane, for Washington's physician, Dr. John Bard, was the fashionable doctor of his day, and he could count his patients by the dozen on Wall Street when society took the air. The handsome man whom both of these old gentlemen distinguished with particularly gracious bows was Sir John Temple, whose too great "inclination for the American cause" had lost him the Lieutenant-Governorship of New Hampshire, but won him the hand of Miss Bowdoin of Massachusetts, and made him the most popular of British consul-generals.* In-

deed, Sir John was New York's official host, for he invariably welcomed every distinguished arrival in the city with a call of ceremony, and no one in the community was more generally admired.

Logically it should have been the French and not the English representative who found favor with the public in those days, but the observer who noted the Marquis de Monstier's red-heeled shoes and gold earrings in the crowd and inquired concerning their owner would learn that His Highness was not in high favor with the elect, and that his sister, Madame la Marquise de Brienne, the lady greeting the passers-by from her sedan-chair, was courted for her entertainments and unmercifully ridiculed behind her back. It must be admitted, however, that the Marquis had been guilty of even worse manners than his sister's guests, for if the gossips at McCormick's could be believed he had once actually brought his own cook to Vice-President Adams's house and caused private dishes to be served to him at his host's table, coolly remarking that he had had some experience with bad dinners in New York and could not afford to repeat it.

Probably none of these distinguished gentlemen would have been recognized by a stranger, but there were faces in the moving throng which were familiar beyond the confines of New York. For instance, almost every Virginian would have been able to identify Cyrus Griffin, the President of Congress, and Lady Christiana, his wife, who were well known in that State; and Thomas Jefferson, lately returned from the court of Versailles, in his red waistcoat and breeches, was quite as familiar to his compatriots as he was to many of the leaders in the city's social whirl. Here, too, the observer could note John Hancock, whose name was writ large on the historic scroll, and Aaron Burr, the Attorney-General, conspicuous for the cordiality with which he was greeted upon every hand, particularly by the ladies, among whom he always found exceptionable favor; and Baron Steuben, the disciplinary genius of Valley Forge, now president of the Society of the Cincinnati; and Colonel John Trumbull, the portrait-painter, who

* Sir John Temple died in New York and was buried in St. Paul's churchyard, where the tablet erected to his memory can be seen to-day.



Drawn by Harry Fenn

WALL STREET THE CENTRE OF FASHION, 1789

Based on Old Prints and Documents in Lenox Library and New York Historical Society

had learned his art under Benjamin West; and Commodore Paul Jones, whom society preferred to call the Chevalier. There were many interesting rumors in circulation about the doughty little Commodore in those days, of which the story that he and Captain Landais had had an exciting encounter was on everybody's tongue. Landais was the naval officer who was credited with having displayed more discretion than valor, and more prudence than discretion, in the battle between the *Bon Homme Richard* and the *Serapis*. In fact, according to Jones's story, the Frenchman had remained safely out of range during most of that engagement, and when he had at last ventured near enough to be of service he had lost his head and raked the *Bon Homme Richard* instead of his adversary, after which masterly performance he had again sought and held the horizon line until the day was won. Landais denied these charges to his dying day, but a court of inquiry had found him guilty on other grounds, and from that moment the world was scarcely wide enough to hold him and his accuser. Therefore when it was rumored that he had confronted Jones on Water Street and spat upon the sidewalk, declaring, with great delicacy, that his defamer might regard the pavement as his face, there were those who thought the story characteristic of the Frenchman's histrionic instinct, but there were very few who believed that he could have roused his courage to the sticking-point and lived to tell the tale. Nevertheless, somebody must have credited the yarn, for Jones's spirited denial was printed over his own signature in a leading paper,* and the gossips continued to whisper it, glancing apprehensively over their shoulders, for many a long day after. There were others among the passing pedestrians, however, of whom the gossips had a less cautious word. For instance, Mrs. General Knox, decidedly plumper and altogether less romantic-looking than she was at the beginning of the war, when she eloped with Henry Knox (the Boston bookseller, turned artilleryman), because her loyalist father would not countenance a rebel son-in-law. But it was not the stout-hearted young bride who accompanied her husband on

his perilous campaigns and lightened their hardships and won Washington's regard whom the gossips celebrated, but rather the stout-waisted matron who was the Mrs. Malaprop of their circle and at whose original remarks society twittered, not too politely, behind its well-drilled fans.

It was a fashionably attired company which filled the narrow sidewalks, the blue coats, variously colored waistcoats, and knee breeches of the men combining with the gay silks and satins affected by the women to lend brightness and an air of festivity to the scene. Indeed, some of the men arrayed themselves much more conspicuously than the women; for John Ramage, the Irish miniature-painter, whose studio was on William Street, not far from Wall, was accustomed to join the promenade attired in a scarlet coat with mother-of-pearl buttons, a white silk waistcoat embroidered with colored flowers, black satin breeches, with paste knee-buckles, white silk stockings, and a small cocked hat perched on his curled and powdered hair, and contrasted with this gorgeous display the description of the latest Parisian novelty in favor with the fair sex suggests extreme simplicity. This creation consisted of "a perriot and petticoat, both made of the same gray striped silk, trimmed all around with gauze cut in points, in the manner of Herrisons which were made of ribbons or Italian gauze. With this was worn a large gauze handkerchief with four satin stripes round its border, two very broad and the others less, the handkerchief itself being an ell and a half square, and for head-dress a plain gauze cap made in the form of those worn by the elders or ancients in the nunneries."** Not all the ladies, however, exhibited such quiet tastes, for here and there were to be seen "celestial blues" and "caracos and petticoats of Indian taffaty" and "perriots with two collars, one yellow and one white"; and "blue satin shoes with rose-colored rosettes," and among the wearers of this brilliant raiment were numbered all the social leaders of their day. Here sauntered Mr. and Mrs. John Watts, the latter better known as Lady Mary (for the élite of the republican court still scrupulously accorded their titles to women

* New York *Packet*, October 29, 1787.

** New York *Gazette*, October 29, 1787.

of rank), and Assistant Secretary of the Treasury William Duer with his wife, the Lady Kitty of her day; and Colonel and Mrs. Alexander Hamilton, and Senator Ralph Izard and his lady, who was Miss de Lancey of New York, and many another couple whose names were widely known.

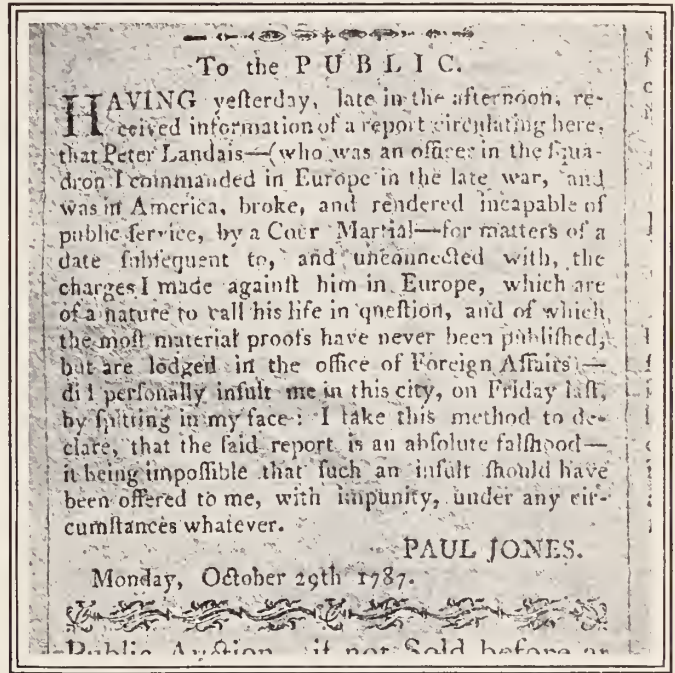
Indeed, Wall Street might have called the roll of the socially elect from Mrs. John Jay's famous list of guests almost any summer afternoon, and reported all present or accounted for; for many of the most prominent families, such as the Winthrops, the Jaunceys, the Verplancks, and the Ludlows, still lived on the high-way, and several of the most distinguished members of Congress, such as Richard Basset, Benjamin Contee, Thomas Sumter, Elias Boudinot, Lambert Cadwallader, and Richard Bland Lee,

dated from Mrs. Daubenay's (Dabney's) fashionable boarding-house. In fact, this exclusive establishment made almost every visitor of distinction a temporary resident of Wall Street, and fortunate indeed were those who secured its accommodations, for the Merchants' Coffee House* was no longer in its prime, and Fraunces' Tavern was not a desirable hostelry after its proprietor, Black Sam, assumed charge of the Presidential ménage. There was, however, another refuge for the wayfarer at No 81 (one of the southerly corners of Wall and William), and this private hostelry, which rejoiced in the plebeian

* Though this historic hostelry, then known as Bradford's, was passing, it was utilized by the Marine Society, the New York Hospital, the Order of Cincinnati, St. John's Masonic Lodge No. 2, and other notable organizations for their early meetings.

name of Huck's, sheltered Daniel Huger, Thomas Tudor Tucker, Edanus Burke, and other Congressional representatives from the South.

From McCormick's hospitable door-



CARD FROM PAUL JONES PUBLISHED IN "NEW YORK PACKET"

From files of New York Historical Society

step the visitor could likewise desery the residences of most of the exponents of New York's official life. At the north-west corner of Wall and William streets lived Francis Van Berckel, the minister from Holland; at No. 5, Samuel Otis, the Secretary of State; at No. 8, the Postmaster, William Bedlow; at No. 13, John Lawrence, the first Congressman from New York city, who later became a judge and a United States Senator; at No. 44, General John Lamb, the first Collector of the Port; at No. 52, Richard Varick, the Mayor; at No. 58, Alexander Hamilton, the Secretary of the Treasury; at No. 60, William Irvin, the Commissioner of Accounts; at No. 64, James Culbertson, the High Constable; while at other points lived the Dennings, the Wilkes, the Pintards, the Edgars, and other prominent New-Yorkers of their day.

Such were some of the men and women who lived and moved and had their being in Wall Street, and the visitors who chanced to be present on one of the occasions when Washington attended Congress in his state coach saw the high-

ceded by uniformed outriders and followed by an accompanying cavalcade, all the local world was there to see.

As a matter of fact, Wall Street saw very little of the President during his official residence in New York. Of course he

attended the inauguration ball, which was held on May 7, 1789, at the City Assembly Rooms on Broadway, just around the corner of Wall, where he danced two cotillions and perhaps a minuet, of which event Jefferson has left a description that would do credit to the most imaginative sensation-monger of the modern press. The Executive likewise honored the grand affair at the French Embassy, where those who took part in the quadrilles were attired in gorgeous costumes symbolical of America and France, and the festivities "were at their height at ten o'clock"; but

there is very little evidence of his having been present at the other distinguished routs and entertainments of the day.* Nor did he grace the dinners for which Wall Street was famous in the years of its social glory, when many a distinguished company was gathered around its hospitable boards. This was partially due to the death of his mother, which occurred during the year, and his own ill health; but the difficulty of making distinctions was mainly responsible for his absence, and even then one of his letters shows that he and his wife never had an opportunity of dining alone. In fact, he had not been long in town before the necessity of adopting some general rules as to what invitations he would give or accept became apparent, and Hamilton drew a simple plan regulating the Presidential entertainments, re-

* There were no less than three dancing-schools in the immediate vicinity of Wall Street at this time.

New-York, May 7, 1789.

The President's Household.

WHEREAS all Servants and others employed to procure Provisions or Necessaries for the Household of the PRESIDENT of the UNITED STATES, will be furnished with Monies for those Purposes;—

NOTICE IS THEREFORE GIVEN, that no Accounts, for the Payment of which the Public might be considered as responsible, are to be opened with any of them.

SAMUEL FRAUNCES,
May 4, 1789. Steward of the Household.

A Collection of Natural Curiosities.
From AFRICA and the Coast of BRAZIL,

A WARNING BY WASHINGTON'S STEWARD
From files of New York Historical Society

way at its best. It was a wonderful creation, that canary-colored Presidential chariot,* with its ornamental crests and its decorations of gilded nymphs and cupids, but Washington doubtless often wished that it was a trifle less conspicuous as he rumbled over the stones of Wall Street to Federal Hall. Indeed, there was probably nothing in his many vexatious official duties which he so thoroughly disliked as making this public exhibition of himself, despite the anti-Federalist sneers at his aristocratic tastes and tendencies. But the general public unquestionably enjoyed the spectacle, and when the ceremonial carriage, with a gorgeous coachman on its thronelike box, and a footman standing behind, and its six horses with their gay trappings and "painted" hoofs, swung into view, pre-

* Part of this historic vehicle was later cut into boxes and sold at a church fair, and the seat and steps turned into garden ornaments by the unimaginative individuals who obtained possession of it.

ceptions, dinners, visits, etc., which, with very slight modifications, has governed every occupant of the White House to the present day. Thus the etiquette of the Executive Mansion may fairly be said to have originated in Wall Street, where Hamilton and his fair lady were famed for their hospitality.

At their table assembled such men as Jefferson, Knox, Adams, Jay, Madison, and other prominent statesmen, and the sentiments pledged on those occasions were eagerly awaited and variously interpreted, for more than one important event in the history of the nation had its inception at these little dinners in Wall Street.* Indeed, the political leaders usually divulged their policies and platforms through the medium of carefully worded toasts, and not all of them were as plain and pointed as that offered at the dinner of the General Society of Mechanics and Tradesmen, which suggested "*A cobweb pair of breeches, a porcupine saddle, a hard-trotting horse, and a long journey for all the enemies of liberty!*" But Hamilton was not the only official noted for entertainments of this sort, for Van Borekel, the minister from Holland, kept open house at the old Marston mansion on the northwest corner of Wall and William, and here all the members of the diplomatic corps with their wives and families were wined and dined informally and in state, and Daniel McCormick's bachelor banquets at No. 39 were justly the talk of the town. Of course there was nothing magnificent or luxurious in these entertainments. New York was still a provincial town of comparatively simple tastes, and there was nowhere any display of wealth. Society depended for its importance upon the personal qualities of its members, and in the heart of the capital there was gathered from all parts of the country a company which gave it a tone and distinction impossible under modern conditions.

Brilliant as its social record had become, Wall Street had not in the mean time lost anything of its former official dignity and had materially added to its historic laurels. On March 25, 1790, Trinity was duly consecrated, and, with

a canopied pew set apart for the President and another specially reserved for the Governor, it bade fair to continue its long tradition as the official place of worship.

Meanwhile within the halls of Congress business of vital importance to the nation had been transacted. On the 7th of April, 1789, a committee was appointed by the Senate to frame a bill for the judicial courts of the United States, and on June 12 of that year Richard Henry Lee reported the measures drawn by Oliver Ellsworth, of Connecticut, which brought into existence the most powerful tribunal known to the history of the law. Indeed, it was on September 24, 1789, in Federal Hall, at the corner of Wall and Nassau streets, that Washington performed the most important act of his administrative career, for on that day he signed the measure creating the Supreme Court of the United States. Certainly nothing ordained by Congress before or since that day has had so profound an effect upon American history as the creation of that mighty tribunal, and from the little court-house on the other side of Wall Street came two of its first judges—John Jay and Brockholst Livingston.

In February, 1790, another significant event occurred in Federal Hall, for a petition presented by the Quakers praying for the abolition of slavery led to a sharp debate, and the next day the last word of advice which Franklin was destined to offer his countrymen was received in the form of a memorial signed by him as President of the Pennsylvanian Society for Promoting the Abolition of Slavery. The discussion on this subject lasted for more than a month, and even at that early date there were muttered threats of secession in the air. It was not the slavery question, however, which then suggested the dissolution of the Union, but rather Hamilton's policy for the assumption of the State debts, which, to the State-rights men, seemed to foreshadow the extinction of all local sovereignty. So bitter was the feeling against the Federal plan that Hamilton was forced to offer great concessions to carry his point, and the compromise he negotiated disposed of New York as the permanent national capital.

* It was at a dinner at Jefferson's house that the bargain was struck whereby the national capital was located at Washington.



TRINITY CHURCH (CONSECRATED MARCH 25, 1790)

Taken from the northwest corner of Wall Street

Meanwhile the fates had long been combining to strip the city of its official honors, for an extraordinarily hot summer and a bitter winter had prejudiced all the visiting members of Congress and intensified the local jealousy and resentment of less favored communities, all of whom were vigorously contending for the possession of the prize. Such was the situation when Hamilton made his famous bargain with Jefferson by which the Potomac was selected as the site of

the future capital, Philadelphia given a lease of power for ten years, and the national government authorized to assume the debts of the several States. The part of this compromise which divested New York of its official character took the form of an act of Congress which was signed by Washington on July 16, 1790, but Wall Street was privileged to witness one more interesting ceremony before it went into effect.

Late in that month Colonel Marinus

Willett, who had been in the South negotiating a treaty of peace with the Creek Indians, returned to New York, bringing with him the chief and twenty-eight warriors of the tribe. At every stopping-place on their journey Colonel Willett and his party had been received with great courtesy and hospitality, and on their arrival in New York they were met and welcomed by a new society whose members donned bucktails and otherwise arrayed themselves in full Indian costume, and assuming entire charge of the proceedings, conducted the puzzled redskins to Federal Hall.

Such was the first public appearance of Tammany, organized in 1789 to spread "*the smile of charity, the chain of friendship, and the flame of liberty, and in general whatever may tend to perpetuate the love of freedom or the political advantage of this country.*" None of those worthy objects would seem to have called the society into the field as the self-appointed reception committee to the

visiting Creek Indians, but the occasion undoubtedly served to bring the organization into prominence, and under its auspices the proceedings, though smacking somewhat of burlesque, were apparently conducted to every one's satisfaction. Indeed, the Society of the Cincinnati, whose aristocratic pretensions unquestionably called St. Tammany into the field, fraternized with its rival on this occasion, and on July 27, 1790, the President made his last official visit to Wall Street in his ornate coach, with all the trappings of dignity, to sign a treaty with the Indians and pass the pipe of peace.

It was August 12 when Congress adjourned, and on the 30th Washington was conveyed across the North River in the same magnificent barge that had brought him to the city which he was never to see again, and almost with his departure changes were begun in Wall Street which were to give it a new place in a very different phase of history.

The Story of a Street

VI.—WALL STREET—THE FINANCIAL CENTRE

BY FREDERICK TREVOR HILL

DOWN by the Battery the building designed for the Executive Mansion was nearing completion, and, up on Wall Street, Federal Hall, dedicated to the use of Congress, was almost paid for; but the President had gone never to return, and Philadelphia had become the national capital. The situation was disappointing, humiliating, and, in view of the futile preparations, even ludicrous, but New York wasted no time in idle lamentation. Socially and politically its year and a half of glory as the seat of the national government had given it a pleasant prestige, but the thoughts and ambitions of its people were concerned with more material advantages. Moreover, it still remained the capital of the State, and with the Legislature and the municipal authorities quartered in the City Hall, Wall Street was not wholly divested of political importance. Indeed, within six months after Congress abandoned it, the highway witnessed an event profoundly affecting the history of the nation, for in the building still commonly known as Federal Hall, on January 3, 1791, Aaron Burr was elected to a seat in the United States Senate, and from that moment a new and decidedly disturbing factor was injected into all political calculations.

The exact causes of Burr's sudden elevation to power have never been satisfactorily determined, but it is possible that he was, even then, cultivating the friendship of Tammany, over which he subsequently exerted a commanding influence, and it may well be that the approval of some of its prominent members contributed to his success. Officially the society had not as yet evinced any direct interest in politics, but there is evidence that its leaders were already manœuvring for a political opening, and

the advice of its patron saint to the children of "the second tribe" was deeply significant of coming events. "*The tiger affords a useful lesson for you,*" observed that legendary sage. "*The exceeding agility of this creature, the extraordinary quickness of his sight, and, above all, his discriminating power in the dark, teach you to be stirring and active in your respective callings; to look sharp to every engagement you enter into, and to let neither misty days nor stormy nights make you lose sight of the worthy object of your pursuit.*"*

Probably this admonition had no controlling influence upon the founders of the organization, but its activities had already brought it into prominence, and it early obtained a foothold in the City Hall for the public-spirited purpose of establishing a Museum of American History.† Thus Wall Street, which had housed the first public library known to the city, became the repository of one of the earliest collections of historic relics assembled in the country, and not many years later it witnessed the founding of the New York Historical Society, whose early meetings were held in the picture-room of the City Hall. Meanwhile other societies secured accommodations under the same roof, which thus became the headquarters of the Medical Society, the St. Cæcilia, the Uranium, and similar organizations, while toward the other end

* Chief Tammany is supposed to have divided his people into thirteen tribes, each of which had a totem or symbol of clanship in the form of some animal whose virtues the chief recommended to their notice. The New York institution claims identification with the second tribe.—*History of the Tammany Society.* (Drake.)

† This collection was later moved to a house on the south side of the street, and was subsequently scattered, part of it passing into the possession of P. T. Barnum, of circus fame.

of the historic highway a group of auctioneering firms were quietly moulding its future. As a matter of fact, however, Wall Street's destiny had been determined at that little dinner at Jefferson's house, where Hamilton had sold New York's political birthright to insure the assumption of the State debts, for most of the public stock which the Treasury issued to finance its plan was marketed through the auctioneering establishments located at the eastern end of the still fashionable thoroughfare. Indeed, the first "stock exchange" known to the city, opened at No. 22* about the first of March, 1792, was a direct effort on the part of the auctioneers to control this business, and it is a curious fact that two of the men associated in this enterprise, McEvers and Pintard, represented families closely identified with Wall Street's previous history.

No marked alteration had yet occurred in the appearance of the street, but under one of the few shade trees† which had escaped destruction during the Revolution there now gathered daily a small group of men who acted as brokers in the purchase and sale of the public stock, and their presence gradually effected a change in the character of the quiet residential neighborhood. Moreover, it was soon apparent that these men had determined to maintain the foothold they had acquired, for they were quick to resent the combination of the auctioneers which threatened to drive them from the field, and lost no time in declaring war against all the allied firms. At a meeting held in Corre's Hotel on March 21, 1792, they resolved to have no dealings with the monopolists, and on March 17 of the same year they subscribed to a written memorandum agreeing upon a definite commission and undertaking to give each other preference in all brokerage transactions.

Such was the origin of the New York Stock Exchange, but there was no immediate attempt to effect a permanent organization, and for some years the trading conducted under the old buttonwood tree

was almost entirely confined to the marketing of the public stock.

Meanwhile the first notable break from its ancient traditions was occurring at the eastern end of the highway, for the Merchants' Coffee House was nearing the close of its distinguished career, and in 1793 it was practically eclipsed by a rival establishment housed in a modern structure erected by subscription* on the Tontine plan at the northwest corner of Wall and Water streets. This building, known as the Tontine Coffee House, was conducted not only as an inn, but also as a Merchants' Exchange, and is fairly entitled to rank among the first office buildings known to the city, which then numbered thirty-five thousand inhabitants. Here in 1793 the associated brokers established their first official headquarters, and before long it became the storm centre of the absurd political agitation which then convulsed the entire city. In default of a better issue at that time the community ranged itself on either side of the impending struggle between France and England, and the local elections were fiercely contested by the partisans of those countries, without the slightest regard to any other question. Provincial and undignified as such a contest was, party feeling ran high in 1793, and it was at this juncture that Wall Street was drawn into the inglorious fray. The trouble began at the Tontine Coffee House, where the zealous champions of France raised a liberty cap, which the English contingent immediately threatened to remove. The French party thereupon set a guard over the building and defied their opponents, the supporters of each side rushed to the rescue, and Wall Street was soon thronged with hundreds of angry men. Neither faction, however, seemed inclined to take the initiative, and after daring and double-daring each other with puerile provocations to the point of exhaustion, the farcical contest ended.

About this time Citizen Bompard, a French naval officer, commanding the warship *L'Ambuscade*, arrived in the port, and taunts and defiances were soon flying thick and fast over the glasses of the mettlesome sons of the sea who fre-

* The street numbers used at this period practically correspond to those of the present day.

† A buttonwood standing in front of Nos. 68-70 Wall Street.

* Two hundred and three persons contributed \$200 apiece to this enterprise.

quented the Tontine. Finally the Master of a United States revenue-cutter arrived on the scene bearing a message from Captain Courtney, of his Majesty's frigate *Boston*, challenging the French commander to a naval duel. This extraordinary communication was actually spread upon the books of the Coffee House, and when Courtney appeared in the town, Citizen Bompard and he soon ran foul of each other. Thereupon the preliminaries were quickly arranged, and sailing out of the harbor, the two valiant gentlemen pummelled each other with cannon for several hours, within hearing but just out of sight of the cheering throngs gathered on the neighboring hills.*

A year later the Franco-British controversy was still raging, and had it then been known that Jay had negotiated his famous treaty with England, his candidacy for the Governorship would have been seriously affected. He was, however, safely inaugurated in the City Hall, July 1, 1795, and the contents of the treaty did not become public until later in that year. Then the partisans of France raised a howl of indignation, and shrieking every charge against the statesman which ignorance and malice could invent, called mass meetings to demand his repudiation at the hands of the Senate. One of these meetings was scheduled for Wall Street, and in front of the City Hall a turbulent throng assembled. There was, however, a strong anti-French contingent represented in the crowd, and when efforts were made to adjourn the proceedings there was a scene of wild confusion. Richard Varick and Brockholst Livingston attempted to address the mob, but were howled down, and then Alexander Hamilton, mounting the steps of his house on the corner of Wall and Broad streets, tried to gain a hearing. The mob, however, was in no mood to listen to a man whom it regarded as a notorious champion of England, and stones were soon flying through the air. "*If you employ such striking arguments, I must retire,*" announced the orator, and in a few moments the rabble swept by him toward the Government House on Bowling Green, where Jay was violently de-

nounced, the rejection of his treaty demanded, and a copy of it burned in front of the official residence. Neither Washington nor the Senate, however, paid the slightest attention to these noisy demonstrations, and the ratification of Jay's negotiation which followed was soon justified by the event. Indeed, within a few years some of the very men whose wild-eyed enthusiasm for France suggested a religious frenzy were shrieking maledictions against that country and urging the administration to make an immediate declaration of war against her. In the mean time, however, Jay did not add to his popularity, for in 1796 he incurred the displeasure of Tammany by declining to honor the anniversary of the society by ordering a display of flags—a precedent which has not protected other incumbents of the City Hall from similar outbursts of wrath.

The volume of business transacted by the brokers during these turbulent years was not very great, and the dealings were still limited to a few stocks, but certain memoranda contained in the note-book of one of the small group who continued to assemble under the buttonwood tree in 1795 show that some phases of the brokerage business were much the same in the eighteenth century as they are in the twentieth. For instance, in the note-book above mentioned, under date of February 13, 1795, this entry has survived: "*I bet G. McEvers 10 Dollars to 5 Dollars that there would not be 3000 votes taken at the ensuing election for Governor in the City and County of New York.*" And again: "*Feby. 17, 1795, I bet Robert Cocks, Sr., a pair of satin breeches that Jay would be elected Governor by a majority of 500 or more.*"

The writer of these engagements was evidently doing a brisk business in the winter of 1795, but Jay was almost the last Federalist upon whose success at the polls it would have been safe to count for a pair of silk breeches or any other advantage, for Burr's political star was in the ascendant, and Tammany was preparing to supply him with what Hamilton termed his "myrmidons" and Theodosia Burr called "recruits for the Tenth Legion."

The Federalists were, however, still sufficiently entrenched in power to pre-

* This remarkable contest took place near Sandy Hook. The English commander was killed.



WALL STREET DURING THE BANKING PERIOD—1847

vent their opponents from obtaining a charter for any rival to the Bank of New York, which had been organized with Hamilton's assistance, and was, in 1798, located in a building erected on the site of the McEvers mansion at the northwest corner of Wall and William streets.* During its existence of fourteen years this corporation had acquired virtual monopoly of the local banking business, and as New York was rapidly increasing in population, the advantage of the facilities afforded by the Federal institution became a valuable political asset. Indeed, it was openly charged that none but Federalist sympathizers could obtain accommodations at its hands, and in the Legislature every effort to place a competitor in the field was summarily blocked. In 1799, however, Burr appeared

upon the scene as the sponsor for a company whose ostensible business was the improvement of New York's water-supply. In view of the recent epidemics, which were generally attributed to bad water, the projectors of this public-spirited enterprise were promptly accorded the necessary charter, authorizing a capital of two million dollars, and providing that any surplus not needed for the immediate prosecution of the business "*might be employed in any way not inconsistent with the laws and Constitution of the United States, or of the State of New York.*"

It must have been difficult for Burr and his adherents to conceal their joy when they perceived the ease with which they were to accomplish their ends, but their secret was well kept, and not until the Manhattan Company was safely established at No. 23 Wall Street, employ-

* See inscription on present building No. 48 Wall Street.

ing its "surplus capital" in the banking business, did the Federalists discover that their enemies had stolen a march on them, and were in a position from which they could not be dislodged. From this time forward the business of chartering banks played an important part in the sessions of the Legislature, and methods were employed to obtain the coveted privileges which would scandalize the most hardened of modern corruptionists, but within a few years the Merchants',* the Mechanics', and the United States Bank were incorporated, and all of them made their headquarters on Wall Street.

Less than ten years elapsed between the retirement of Congress and the establishment of the Manhattan Company, but during that time the population of the city had increased from thirty-five to sixty thousand people, and the character of its historic highway was being gradually transformed. Indeed, the advance guard of fashion had already begun to move up to Park Row at the opening of the nineteenth century, and the gaps caused by this migration were quickly occupied by the pioneers of finance. Business was still conducted on a very modest scale, however, and for some years the thoroughfare maintained a residential aspect. Fashion had never favored the neighborhood of the Tontine Coffee House, and such private houses as there were in that vicinity fell an easy prey to the commercial invasion, but between Pearl Street and Broadway every foot of territory was contested, the private dwellings surrendering only one by one. Even then those that capitulated often managed to conceal the fact until long after the event, for the days of conspicuous advertising had not yet arrived, and the new tenants frequently preferred to make no alteration in the premises. Here and there a sign was displayed, and at a few points the oldest houses were replaced by modern structures, such as that of the Bank of New York, but save in these particulars there was as yet little evidence of the coming transformation.

* The Merchants' was located at No. 25, the United States at No. 38, and the Mechanics' at No. 16 Wall Street. The first two were incorporated in 1805, and the last in 1810.

Such was the aspect of the street on the morning of July 11, 1804, when a bulletin displayed on the Tontine Coffee House attracted the attention of the earliest arrivals, and in a few moments messengers were speeding through the city carrying the startling news that Hamilton and Burr had met in a duel, and that the former lay at the point of death. From that moment business was practically suspended, and all day long great throngs gathered before the Coffee House, watching the bulletins which reported the famous statesman's brief struggle for life. The end was announced on the afternoon of the 12th, and on Saturday, the 14th, Wall Street witnessed the most impressive funeral pageant known to the history of the city. Every window and roof was crowded with mourners as the body was borne to Trinity, and the junction of Wall Street and Broadway was lined with troops, the soldiers leaning their cheeks against the butts of their inverted rifles in an attitude of grief. Between their ranks passed the procession, which included the Governor, the Mayor, the judges, members of Congress, foreign ministers, representatives of Tammany, the Cincinnati, St. Andrews, Columbia College, the Chamber of Commerce, members of the bar, delegations of law students, and scores of distinguished citizens.* In front of the entrance of Trinity a platform had been erected, and here Gouverneur Morris delivered an oration, at the conclusion of which Hamilton's body was consigned with full military honors to the ground where Sir Henry Moore, Sir Danvers Osborn, James De Lancey, and others closely associated with Wall Street's history already slept, and where Robert Livingston, Marinus Willetts, Morgan Lewis, and Robert Fulton were to find their final rest.

With this event the political history of the street may fairly be said to close, and during the next twenty-five years the new era, which had already dawned, slowly but surely developed. Close in the wake of the banks and insurance companies came the lawyers, and among the numerous representatives of the legal profession who established their offices on

* The New York *Evening Post* and the New York *Commercial* of July 15, 1804.

the highway about 1809 was a young attorney whose work was destined to give it a new and unique distinction. Washington Irving had originally studied law in the offices of Brockholst Livingston and Josiah Ogden Hoffman, two of the early practitioners in the famous Mayor's Court at the corner of Wall and Broad streets. In 1809, however, he was associated in practice with his brother, John T. Irving, at No. 3 Wall Street, and another brother, Dr. Peter Irving, had an office in the same building, and here it was that Washington Irving began the *Knickerbocker History of New York* which was to make him known to the whole English-speaking world.*

Meanwhile New York had scored another astonishing gain in population, for in 1810 the census showed no less than ninety-six thousand inhabitants, an increase of over fifty per cent. in the preceding ten years, and by 1820 the city included fully one hundred and twenty-three thousand souls.† Three

* Washington Irving and Dr. Peter Irving were jointly responsible for the original idea, and they collaborated on the opening chapters, which were subsequently rewritten by Washington Irving alone.

† By 1830 population was approximately 202,000; by 1840, 312,000; by 1850, 515,000; by 1860, 805,000; by 1870, 942,000; by 1880, 1,200,000; by 1890, 1,500,000 (U. S. Census Reports).

New-York City Lottery.

SCHEME of a LOTTERY, for the purpose of raising Seven Thousand Five Hundred Pounds, agreeable to an Act of the LEGISLATURE of the State of NEW-YORK, passed 8th February, 1790.

SCHEME.

1 Prize of	£. 3000	-	£. 3000
2	1000	-	2000
3	500	-	1500
10	200	-	2000
30	100	-	3000
50	50	-	2500
120	20	-	2400
180	10	-	1800
7950	4	-	31800

8346 Prizes. } 25,000 Tickets, at 40s. each, - - - - £. 50000
16654 Blanks. }

Subject to a deduction of 15 per Cent.

THE object of this LOTTERY being to raise a part of the sum advanced by the Corporation for repairing and enlarging the CITY-HALL, for the accommodation of CONGRESS, which does so much honor to the Architects, as well as credit to the City. The Managers presume, that their Fellow-Citizens will cheerfully concur in promoting the sale of Tickets, especially, as the success of this Lottery will relieve them from a Tax, which must otherwise be laid to reimburse the Corporation.

The above SCHEME is calculated in a manner very beneficial to Adventurers, there not being two Blanks to a Prize.

The Lottery is intended to commence drawing on the first Monday in August next, or sooner if filled, of which timely notice will be given. A list of the fortunate numbers will be published at the expiration of the drawing.

Tickets are to be sold by the subscribers, who are appointed Managers by the Corporation.

ISAAC STOUTENBURGH,
PETER T. CURTENIUS,
ABRAHAM HERRING,
JOHN PINTARD.

New-York, March 6, 1790.

LOTTERY SCHEME TO PAY FOR FEDERAL HALL

From original in possession of the New York Historical Society

years before this amazing result was achieved the brokers, who continued to assemble in steadily increasing numbers in Wall Street, organized under the name of the New York Stock and Exchange Board and adopted a written constitution, but they were soon driven from their customary haunt by an outbreak of yellow fever, taking refuge for a time in Washington Hall, corner of Broadway and Reade Street, but eventually finding their way back to the *Courier and Enquirer*

office at No. 70 Wall Street, which sheltered them for a part of the decade closing in 1830.

By this time the street which had once been the centre of government and the resort of fashion had become completely transformed. Federal Hall, the wonder and admiration of the city, had disappeared, the buildings erected on its site had gone up in smoke and flames; the Bank of the United States occupied the present Assay Building; the great Merchants' Exchange, covering the block lately abandoned by the Custom House, had been constructed, numbering among its many tenants the New York Stock and Exchange Board, and on all sides the hum of business was deepening into a roar. Old buildings were still giving way to new, however, and other changes were being effected, when the great fire of 1835 swept through the thoroughfare, levelling the monumental Merchants' Exchange and scores of other buildings to the ground; but almost before the ruins had cooled, the work of tearing down and building up was resumed—and it has never ceased. "*It is as difficult to wend one's way through Wall Street as it ever was,*" wrote the chronicler of the *New York Gazette* in 1839. "*Physically as well as financially there is peril in perambulating that street. Stocks may rise, but stones are falling prodigiously in all directions. The Manhattan and the City Bank are being torn down, and there are other edifices in old Wall Street under the besom. New York, ever since we knew it, has been a city of modern ruins—a perfect Balbeck of a day's growth and a day's dilapidation. The builder is abroad one day, and is relieved of his labors by the destroyer the day after. We never expect to see the city finished, but we have the greatest anxiety to see it fairly commenced.*"*

Almost threescore years and ten have passed since those lines were printed, but they fairly depict the modern conditions. Moreover, three years before the writer in the old *Gazette* described the physical aspect of the street, another contributor to the same periodical recorded some impressions of its life, which reflect the conditions of to-day.

"*Between ten and three o'clock,*" re-

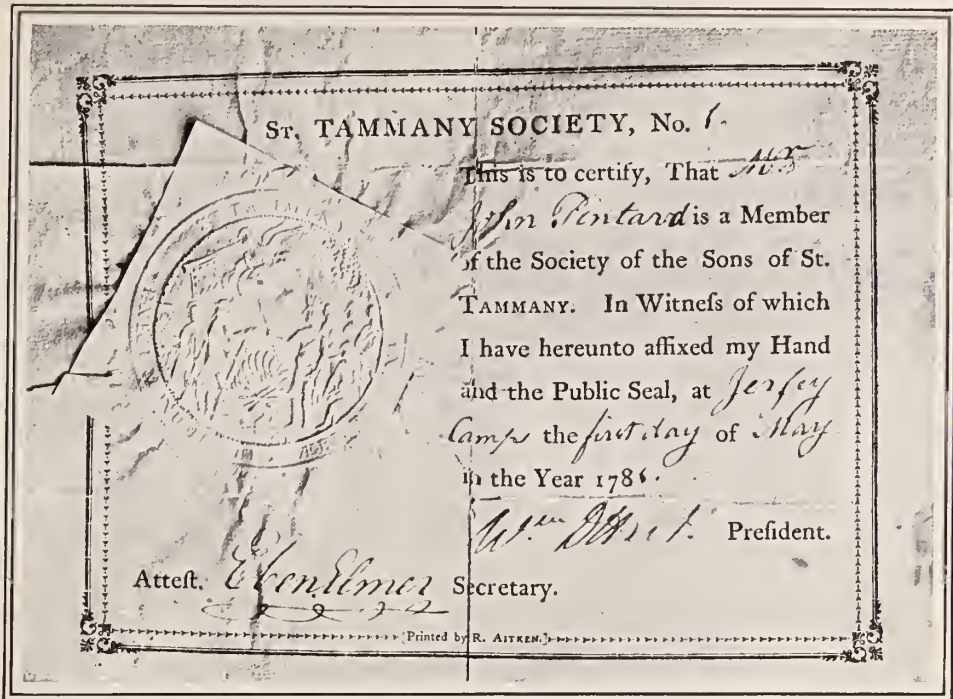
* *New York Gazette*, Vol. XVI., p. 375.

ports this observer of 1836, "*Wall Street is crowded with speculators, money-changers, merchants, bank directors, cashiers, and a whole menagerie of bulls, bears, and lame ducks, and all is anxiety, worry, fretfulness, hurrying to and fro, wrinkled brows, eager eyes, calculating looks, restless gestures, and every indication which follows in the train of grim-visaged care. Wall Street is a place to study character, and the moralist would find material there to rewrite the 'Spectator,' the 'Tattler,' the 'Rambler,' and the 'Guardian' with scenes, incidents, personages, and manners peculiar to New York, and to no other city under heaven.*"**

Such was the highway twelve months before its first great panic in 1837, and for the next three years the brokerage business languished to such an extent that the Stock and Exchange Board distributed its surplus among its members and virtually dissolved, though maintaining at least a nominal headquarters at one of the Jauncey buildings, No. 43 Wall Street. By 1842, however, the financial storm was over, and for the next twelve years the Board occupied a large hall over the reading-room of the new Merchants' Exchange, erected on the site of the building destroyed by the great fire, and so prosperous did it become during the interval that rivals† were induced to enter the field. During all this time the outdoor market or place of public assembly for the brokers was on the corner of Wall and Hanover streets, but in 1854 the Board moved to the Corn Exchange Bank Building on the corner of William and Beaver streets, and from that day to this the Stock Exchange has never had its headquarters on Wall Street. It would almost seem as though its desertion of the thoroughfare carried ill luck, for one of the most notorious scandals associated with the history of banking and railroads in New York—the Schuyler frauds of 1854—occurred about the time of its departure, and shortly after it moved again to Lord's Court at William Street, Beaver Street, and Exchange Place, the great

* *New York Gazette*, Vol. XIV., p. 135.

† It had at least one formidable rival prior to 1837, which the panic of that year virtually eliminated.



ONE OF THE EARLIEST CERTIFICATES OF MEMBERSHIP IN TAMMANY
From original in possession of the New York Historical Society

panic of 1857 caused wide-spread disaster and alarm. The full force of this financial convulsion was felt in Wall Street, for by 1850 the highway had become the banking centre of the metropolis, whose population had risen to over half a million. Indeed, in that year there were no less than fourteen banks and sixty-nine insurance companies quartered on the thoroughfare,* and as the day of the modern office buildings with their thousands of tenants was still far distant, these concerns almost monopolized the limited territory. Every vestige of residential ownership had long since disappeared; the Presbyterian Church had been torn down and removed brick by brick to Jersey City; the Custom House, occupying the former site of the City Hall at the Nassau Street corner, had been erected at an enormous cost; the street had been somewhat widened; the Trinity of 1790

had been demolished and the present structure erected, and other changes were occurring every year.

It was not until 1863, however, that the old Stock and Exchange Board became known as the New York Stock Exchange,* and six more years elapsed before it merged its interests with those of its rival, the Open Board of Stock Brokers. Then came that Black Friday of September 24, 1869, well within the memory of many of its present denizens, when the street swarmed with demoralized victims and half-crazed captains of finance, while a little group of conspiring speculators dealt out ruin to thousands before they were themselves engulfed in the pit which they had dug.

From this time forward the history of the highway cannot be distinguished from that of the neighboring thoroughfares. Indeed, much which it is accused of and much that it is credited with is not properly associated with it

* From a rare publication of that year in possession of the New York Historical Society called "New York Pictorial Directory of Wall Street."

* It moved into its present quarters, Nos. 10 and 12 Broad Street, December 9, 1865.

at all, for the wide field of operations now conducted in its name is by no means limited to its own narrow confines, and "the street" no longer means the canyon down which Trinity gazes.

But though its story has lost in color and picturesqueness during the last hundred years, its fame within this period has almost reached the uttermost ends of the earth, and it would seem as though its latest phase, as the financial centre, was destined to endure. Yet who can tell? The strip of land that has seen Stuyvesant's wooden palisade rise to the gigantic walls of brick and stone which now enclose and shadow it—the spot where Zenger's words were burned and the Declaration of Independence read—

the route along which royal pageants passed and the ragged Continentals made their triumphal march—the forum of the Revolution and the birthplace of the nation—the haunt of fashion and the heart of business—the home of Hamilton—the school of statesmen—the firing-line of commerce—the battleground of politics and of money—the scene of financial master-strokes and speculative orgies—of loud-tongued victories and wild-eyed panics—the lair of the money spiders and the workshop of a Washington Irving and a Stedman—this is no mere street or thoroughfare. It is historic ground, of whose final destiny none dare prophesy.

THE END.





Drawn by Charles Hoffbauer.

THE SHADOWY CITY LOOMS.

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NO. 3

THE EVOLUTION OF THE SKY-SCRAPER

By Montgomery Schuyler

ILLUSTRATIONS BY E. C. PEIXOTTO



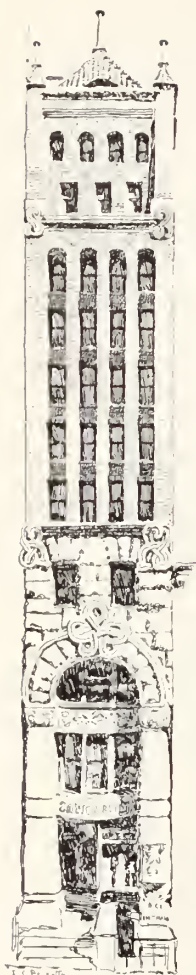
THE occasion of these ensuing remarks is the demolition,—no doubt, when they come to publication, accomplished or plainly impending, already, even while they are making, irrevocably determined,—of “the earliest example of the skeleton construction, in which the entire weight of the walls and floors is borne, and transmitted to the foundations, by a framework of metallic posts and beams.” Such is the proclamation which the doomed front of the “Tower Building” at No. 50 Broadway has for some years made, from a bronze tablet, to the passer-by. Whereas in “1888-9,” to repeat the date of the inscription, an altitude of eleven stories to a latitude of twenty-one feet and six inches was plainly out of the question, except through the mediation of some unfamiliar and unprecedented mode of construction, twenty years later it is found that the ground of lower Broadway has grown too valuable for so humble an erection. The erection which is projected to occupy the site is of thirty-eight stories. And this later altitude is by no means a “record.”

Is there any parallel, in the history of human building, to the rapid and revolutionary process which has raised the building of American towns, within the memory of men who need not be so very old, from a “norm” of five stories to an uncertain and unpredictable height; so high that forty stories are already realized, and fifty are projected by a “conservative” corporation, not as a monument as of Babel, but as a

“practical business proposition”? Probably none. Certainly none. No parallel, but a striking prototype. The prototype is to be found in the building of northern France in the early part of the thirteenth century. A Frenchman born in 1175 and surviving in 1250 might have boasted that he had “rocked the cradle” of Gothic architecture, if not quite that he had “followed its hearse.” For he had at least lived to see it radically differentiated from the Romanesque which had preceded it, and, in one or another of its phases, had held sway for near a thousand years. Such a Frenchman might have seen “the Gothic principle” both virtually germinate and variously effloresce, in the great cathedrals of Paris, Chartres, Rheims, and Amiens. If of a critical turn, he might have noted that this wonderful and fruitful development had all come from the application of a single mechanical expedient. “It is this necessity for a stone roof,” says Fergusson, “that was the problem to be solved by the architects, and to accomplish which the style took almost all those forms which are so much admired in it.” If of a hypercritical turn, our supposititious mediæval friend might even have noted that the development, wonderful as it was, after all failed really to attain this object. The inwardly ostensible “stone roof” continued to be covered with an outwardly ostensible wooden roof. Only such sporadic and unfruitful experiments as the roofs of Seville Cathedral and Roslyn Chapel remain to show that the necessity for a stone roof was felt, as well as the necessity for a stone

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Printed in New York.



Tower Building,
Broadway, New York.
The earliest example of the
skeleton construction.

all of a cynical turn, might say that the ultimate motive of the modern structure was as symptomatic of the period as that of the mediæval, that these "skeletons" of our building, after the veneer of masonry had fallen from them, and they were left to assert themselves in their original crudity and starkness, before returning altogether to oxide of iron, might still be, in the majestic Ruskinian phrase, "the only witnesses that remained to us of the faith and fear of nations," the faith in the dollar toward which they so plainly aspired, the fear of "the hell of not making money." "Commodity," in the crowded centres of great cities,

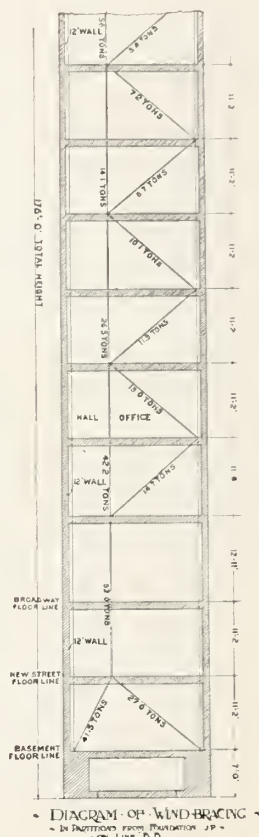
"ceiling," which was what the historian of architecture really "wished to say."

The even more rapid and bewildering development, under his own eyes, of the even more insistent and conspicuous "sky-scraper" may well strike an elderly American who has turned the first corner of the twentieth century, as the earlier development might have struck the Frenchman who had turned the first corner of the thirteenth. Not at all that the sky-scraper has given evidence of architectural achievements comparable, in their probable interest for posterity, with those of the builders of the mighty minsters. But the beginnings of the later development are no humbler and no less respectable than the beginnings of the earlier. To superpose stories so as to make two tiers of tenants "grow" where only one grew before is as respectable and dignified a motive for architecture as to cover a church with a stone ceiling which, after all, is not a roof. The American observer, if at

all of a cynical turn, might say that the ultimate motive of the modern structure was as symptomatic of the period as that of the mediæval, that these "skeletons" of our building, after the veneer of masonry had fallen from them, and they were left to assert themselves in their original crudity and starkness, before returning altogether to oxide of iron, might still be, in the majestic Ruskinian phrase, "the only witnesses that remained to us of the faith and fear of nations," the faith in the dollar toward which they so plainly aspired, the fear of "the hell of not making money." "Commodity," in the crowded centres of great cities,

is as strikingly subverted by these towering structures as comity is defied. And the wonder why they were not devised and built before only grows on study. Paxton's Crystal Palace of 1851, only fill some of its panels with baked clay instead of glass, was already an example of the "skeleton construction." The Tour Eiffel of 1887, only close it in with opaque panelling and increase its provision of "ascenseurs," would be a negotiable "sky-scraper," and even the Saul among the actual, though not among the projected, sky-scrappers. At least, there existed at the date of its erection no structure which so completely fulfilled the current American definition. Nay, there stood in "The Swamp," on Manhattan Island, from 1856 to 1907, a "shot-tower" which was essentially an example of the skeleton construction, that is to say, a building of many stages in which a structural skeleton of metal sustained panels of brickwork which concealed and sheltered its inmates and their operations.

Be that as it may, it is certain that the earliest and the most indispensable of the factors which have enabled the construction of these mighty monsters was the "passenger elevator," and that this was brought into use during the sixties, its first appearance in New York being in the Fifth Avenue Hotel, just lately demolished after a life of close upon half a century. It was at about the same time introduced into the Astor House, then already a generation old. So obvious was the utility of this device that the wonder again is that it had not been brought in to practice long before. "Hoists" are, of course, as old as



Tower Building.



Drawn by E. C. Peixotto.

The Tribune Building (after remodelling), New York
A pioneer elevator building.
Richard Morris Hunt, architect, 1873.

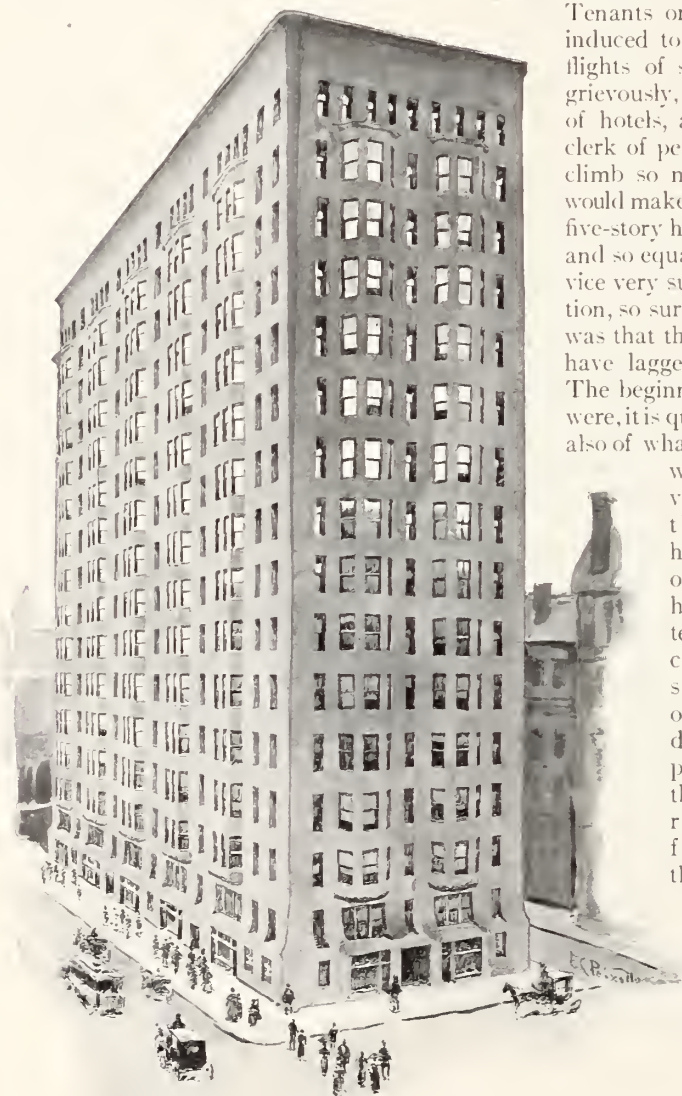
the Dutch warehouses, of which the picturesqueness is enhanced by the projecting cranes that worked the hoists, doubtless as old as Archimedes. But hotels, even when the Fifth Avenue was built, were conditioned in altitude as were all other buildings not exclusively monumental, by the powers of ascension of the unassisted human leg. Five stories was the maximum for com-

mercial buildings, except that an attical sixth might be added for the discommodation of the janitor, whose name was Hobson, and who had to go where he was sent, which, naturally, was where no "paying guest" could be induced to go. He and his may have taken their outlook on life from slits or bull's-eyes just under the roof. In the cases of hotels, the sixth story was assigned to servants and store-rooms.

Tenants or inmates could not be induced to climb more than four flights of stairs, and grumbled grievously, in the case of inmates of hotels, and accused the hotel clerk of perfidy, when they had to climb so many. A device which would make all the floors, even of a five-story hotel, equally accessible, and so equally desirable, was a device very sure of immediate adoption, so sure that the only wonder was that the supply of it should so have lagged behind the demand. The beginnings of the elevator were, it is quite true, the beginnings also of what, in their earlier stages,

were known as the "elevator buildings." But this development was hidden alike from the owners and keepers of hotels, from their architects, and from the mechanics who set themselves to supply the obvious and clamant demand. It was not expedition, but only relief, that the hotel guests, relegated to the fifth floor, demanded, and that the progress of invention supplied.

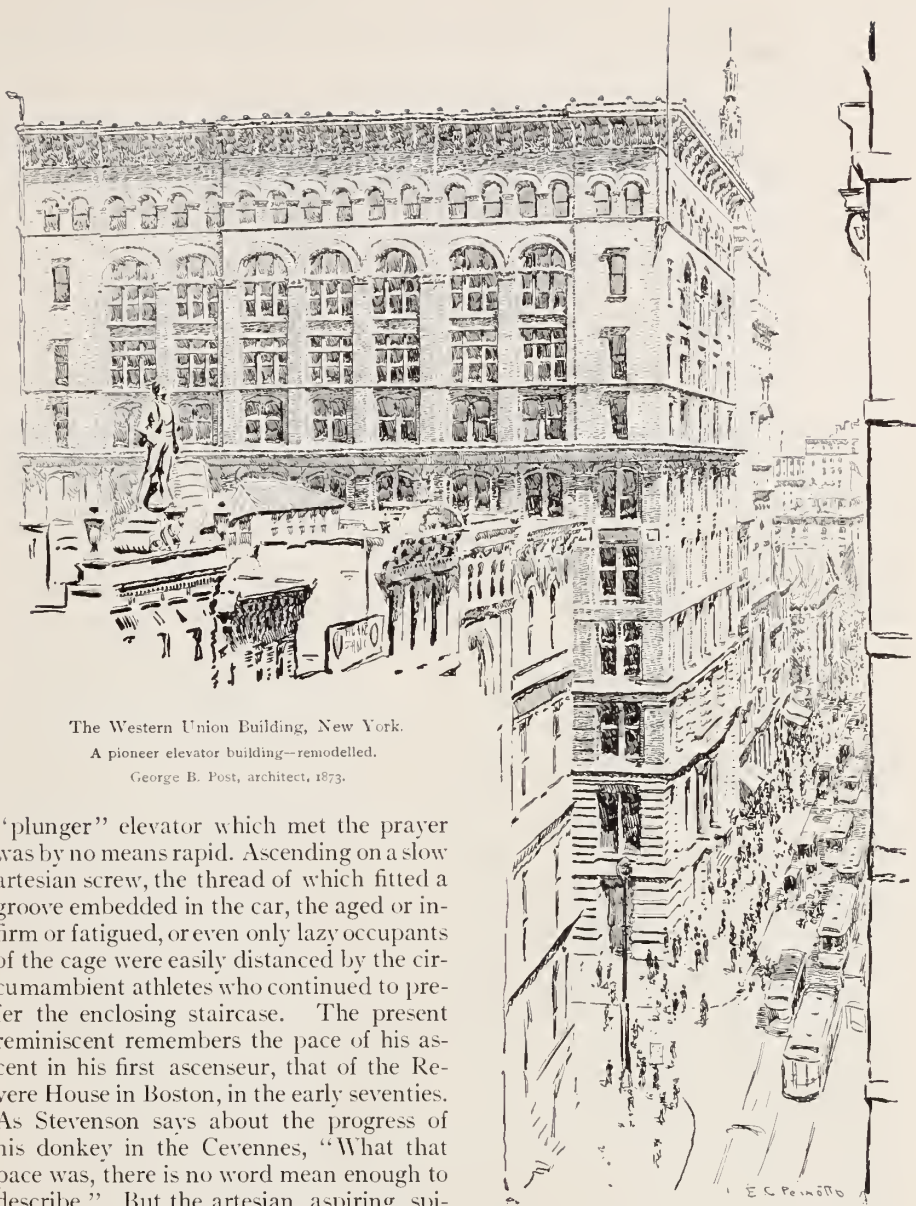
And, "because of their importunity," the hotel keeper and his visible viceroy, the hotel clerk, entertained the proposals of the mechanic who undertook to make the fifth story as desirable as the second. The transit of the



The Monadnock (older part), Chicago, Ill.

The "transitional" tall building.

Burnham and Root, architects.



The Western Union Building, New York.

A pioneer elevator building—remodelled.

George B. Post, architect, 1873.

“plunger” elevator which met the prayer was by no means rapid. Ascending on a slow artesian screw, the thread of which fitted a groove embedded in the car, the aged or infirm or fatigued, or even only lazy occupants of the cage were easily distanced by the circumambient athletes who continued to prefer the enclosing staircase. The present reminiscent remembers the pace of his ascent in his first ascenseur, that of the Revere House in Boston, in the early seventies. As Stevenson says about the progress of his donkey in the Cevennes, “What that pace was, there is no word mean enough to describe.” But the artesian, aspiring, spiraling thing was at least safe, being painfully hoisted by means of a solid metallic post which sank underground as far as the car ascended above. How singular to learn that the “plunger type” is not only still in use, but, in some of the latest sky-scrapers where “time is of the essence,” has been chosen in place of the arrangement of ropes and pulleys which seem to promise so much more speed at the price of so much more danger!

To equalize the desirableness of rooms on the fifth floor with that of rooms on the second remained the humble office of the elevator for nearly or quite a decade. Such a creature of habit is man, and perhaps particularly mechanical man, that, throughout that decade, it did not occur to anybody that the new appliance might enable the construction of taller buildings. The first building in which this discovery was util-

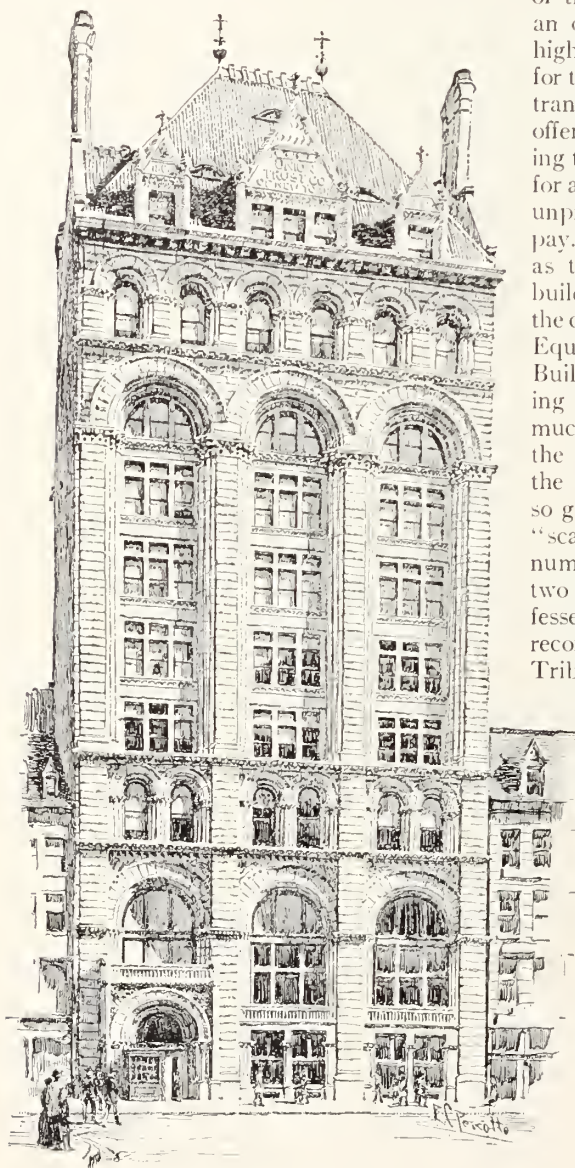
ized in design was the Equitable Building on Broadway, since remodelled, it is true, and now threatened with demolition in favor of a more aspiring successor, but even in its first estate, as projected in 1869, attaining seven stories of offices for rental instead of the theretofore Procrustean five. The addition of two stories now seems timid and tentative enough; then doubtless it seemed audaciously venturesome. The controlling

spirit of the corporation, Henry B. Hyde, was not the man to be deterred from what to him promised profit by lack of precedent. From the first he foresaw the prospects of the higher vertical extension of his building. Mr. George B. Post, though not the designer of the original as he was of the reconstructed Equitable, yet sustained some consultative relation to its construction. Before it was completed he made, for one

of the suites in the additional stories, an offer based on and equalling the highest rents then paid on Broadway for the like accommodations. Mr. Hyde tranquilly doubled the amount of the offer, and the tenant acquiesced, retaining the offices until he sold out his lease for a substantial advance even upon the unprecedented rental he had agreed to pay. Of course, such an object-lesson as this in the advantages of elevator buildings was not thrown away upon the commercial community. Before the Equitable was completed, the Tribune Building and the Western Union Building were projected and under way; much more visibly than the Equitable the products of the elevator. For, in the older building, the stories were so grouped in pairs as to increase the "scale" and to diminish their apparent number, whereas in each of the later two its nine or ten stories stood confessed. Each, by the way, has since been reconstructed by vertical extension; the Tribune Building by a superstructure

merely repeating the substructure; the Western Union by a superaddition paying scant respect to the beginnings. Yet it was in their original estate, and with the altitude since so far outgrown, that Professor Huxley found them the most conspicuous objects on Manhattan Island, as he neared it in 1875, and congratulated his hosts that these monuments of mere utility should be thus distinguished, instead of the castle or the cathedral which he would have been apt to find dominating a European town.

A certain timidity accompanied these tentatives, bold as they looked to the wayfaring



The Union Trust Building, New York.
George B. Post, architect.



Drawn by E. C. Peixotto.

The Ames Building, Boston, Mass.
Shepley, Rutan, and Coolidge, architects.

man, who saw the commercial sky-line suddenly lifted to nearly twice its previous and normal height. The real-estate speculator who puts his speculations into practice is slow to push his "premises" to their logical conclusions. When all the cells of the new honeycomb were found to be tenatable and rentable, the successors naturally bettered the instruction of the pioneer, and "built to the limit."



The Bayard Building, New York.
Louis H. Sullivan, architect.

The limit, the limit of altitude, was none the less fixed, though the level of the fixity was still subject to some dispute, and was admitted to vary with circumstances. "It is looked out for," says the German proverb, "that the trees shall not grow into the sky." It was looked out for that the tall buildings of the seventies and the early eighties should not scrape the sky. The restraining condition, before the introduction of the passenger elevator, had been, as we have pointed out, the powers of ascension of the human leg. Five stories had been found to be the maximum beyond which no tenant would pay rent, and even to which no "paying guest" would ascend without grumblings and reluctations. After the introduction of the passenger elevator the restraining condition was as real, though not, perhaps, so definite. It was the necessity of thickening the walls as they arose, and of occupying more of the total area with the points of support. With the points of support, and with the increasing spaces that must, with an increase of altitude, be reserved for the elevators themselves. But the necessity of thickening the walls and the partitions was the main limiting condition. And also, it is to be borne in mind, while the interior horizontal divisions, the floors, might be of brick arches, turned between beams of rolled iron, yet it was assumed that, for the vertical divisions, the partitions, actual masonry was required. The necessity of making these new and towering structures more securely fireproof was, of course, recognized as an indispensable condition. And the chief lesson of the great fires of Chicago, in 1871, and of Boston, in 1872, was held to be that exposed metal uprights were not to be trusted in a great conflagration.

You see how the thickening of outer and inner walls made necessary by this enormous burden of interior construction operated as an automatic restriction upon altitude, how it provided that the sky-scrapers should not grow into the sky. For more than a decade Necessity directed the efforts of her offspring, Invention, to lightening the load. The rolled iron beams continued to be the framing of the floors. But the brick arches that had been turned between them were replaced by hollow blocks of terra-cotta. Already, in that pioneer, the Tribune Building, "terra-cotta arches"



West Street Building, New York.

Cass Gilbert, architect.

were specified, and constituted one of the novelties of the construction. But even from these it was a long stride to the present accepted construction of arches of hollow tile, with horizontal surfaces above for the reception of the floors, and below for the reception of the ceilings. Other inventors were meanwhile laboring diligently at "fire-proofing" the iron columns with envelopes of baked clay, so that their lesser bulk and

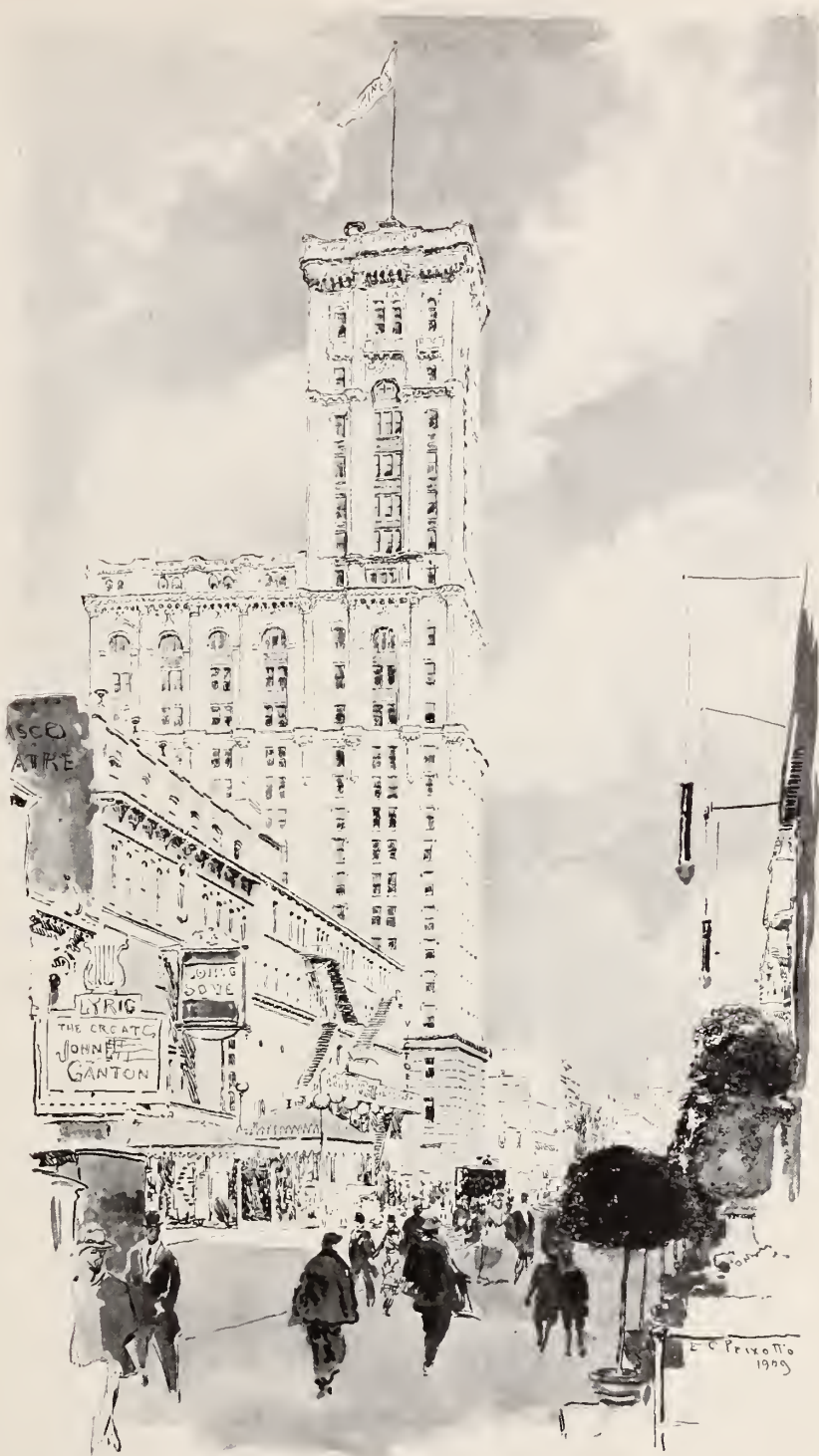
weight might be substituted for the cumbersome, costly, and slowly constructible piers in brickwork. The result of these labors was that the limit of practicable altitude in commercial buildings rose, within a decade, from the nine stories of the Tribune Building, of which one or two, by the way, were added during the construction, and the ten and a half of the Western Union, of which, however, the upper three were con-

tained in the sharply diminishing wedge roof which originally crowned the edifice—to twelve stories, to thirteen, to fourteen, in such cases as that of the Monadnock, in Chicago, to sixteen; from once and a half the level of the ancient sky-line of lower New York to more than twice, to almost three times, that height.

But, in the matter of sky-scrapers, it was not the first but the last step that cost. It is this last step which has brought with it the most perplexing civic problems to which the new building has given rise. Looking back, it seems only strange, not that the step should have been taken, but that it should so long have been delayed. The gestation of Necessity seems to have been singularly protracted. For, logically, if you can protect an interior framework of metal against the elements—the elements being in this case Air, in the form of wind, and Fire—so can you the outer framework. There is no more compulsion to build a real wall of costly, and still more of space-consuming, masonry in the one case than in the other. Yet our constructors were quite a decade in taking that final and obvious step. It was at last the legitimate offspring of necessity. Early in the eighties, to be sure, Mr. Post, in the interior court of the Produce Exchange, had produced an example not only of the “cage” construction, but of the “skeleton” construction, which is not quite the same thing, though the terms are often used interchangeably by architects and engineers. In the cage construction the walls still carry themselves, though they carry nothing else, a metallic frame alongside of them, or embedded in them, taking from them the burden of the interior construction. It is this latter construction, a core of metal embedded in the masonry of the outer piers, which was first fully exemplified in Mr. Jenney’s design for the Home Fire Insurance Company, erected in Chicago in 1884, while in the earlier court of the Produce Exchange, considered as a separate building, the “skeleton” construction had already arrived. Not long after the Chicago example, if, indeed, not rather before, Mr. Buffington, of Minneapolis, had produced a “project” which startled the members of his profession, for a building of twenty-eight stories, under a patent of his own for an “Iron Building Construction,” which “consists of a con-

tinuous skeleton of iron, commencing on the iron footings and continuing of iron and steel to the full height.” This project, however, remains on paper. But there never was a more legitimate birth of “Necessity” than the Tower Building, now doomed. The architect, Mr. Bradford L. Gilbert, found himself confronted with the imperious necessity, in 1888, of erecting a building as high as would be constructible and rentable, on a Broadway frontage of twenty-one feet and a half, by a depth of over a hundred feet, giving access to a considerably wider building at the rear. According to the regulations of the Building Department, such a building, erected with self-sustaining outer walls of masonry, even if the whole weight of floors and partitions had been assigned to an auxiliary construction of metal, would have been narrowed to a mere corridor and unavailable for rental. It was a Gordian knot that simply had to be cut, and the cutting was the proposal to abolish the walls altogether. Naturally, so drastic a solution was looked upon askance by the authorities, but the permit was at last issued. Columbus had shown how the egg could be stood on end.

Of course the Columbuli rushed in at that demonstration conspicuously made in the outer front of a building on Broadway. It ought to be explained that the demonstration nearly coincided with a still further lightening of the interior construction by reason of the popularization of the Bessemer process. It was, in truth, this change in the interior fireproof construction, rather a cheapening than a lightening. The most recent form of floor, with flat arches of hollow tile turned between steel beams, has, it seems, no very marked advantage in weight over the older brick arch turned between beams of wrought iron. Its advantages are that it “dries out” far quicker, that it presents a flat under surface to the plasterer, and particularly that it is far cheaper. The steel beams can now be furnished cheaper than in the early days iron could be had cast, not to say wrought. Already, in the Home Life Building in Chicago, there was an additional record to that of the scheme of construction, being the incorporation into the structure, by Mr. Carnegie’s concern, of a specimen steel beam or two, though rather as a trophy of what had been accomplished than as a



Drawn by E. C. Peixotto.

The Times Building, New York.

C. L. W. Eidlitz, architect.

"practical business proposition." But it was not long before the proposition became grimly practical. The new and cheapened alembication of iron saved a considerable fraction of the cost of fireproof building. Put that saving into terms of altitude, and you will see what a vertical extension it invited and made possible.

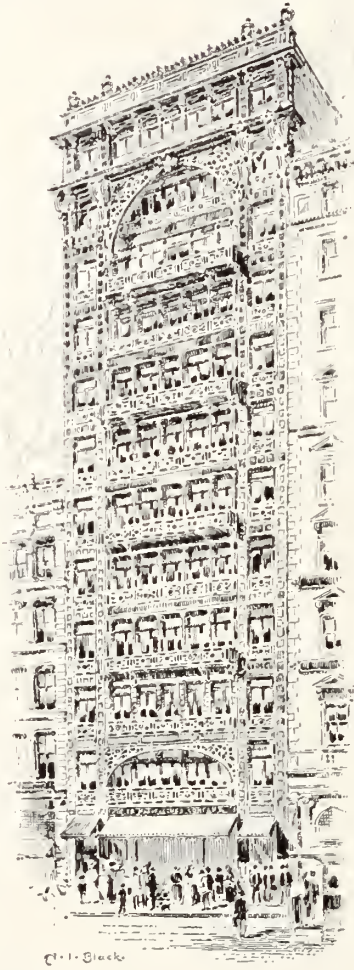
With these advances and object-lessons the limit was, in truth, removed. One no longer perceives how "es ist dafür gesorgt" that the sky-scrapers should not scrape the sky. What, if any, is the limit of the new commercial Babels? As many architects engineers, "promoters," as you may consult to-day, "tot sententie." It is true that, as thirty years ago the proportion of total area to be taken up with your enclosing and subdividing walls seemed to form a limit, so you will now find those who place the limit in the proportion of area necessary to be reserved for the elevators themselves which primarily enable the lofty construction. But those who compare the area and the altitude of the Singer Tower, or the Metropolitan Life Tower, those strictly utilitarian erections which tower so far above all the erections of man that have a monumental purpose, the Eiffel alone excepted, and who consider the "practical" projects that threaten to overtop even that, will hesitate to find any effective limitation in this indefinite ratio. The well-meant efforts to fix a limit by legislation to the altitudes which are converting the slits of street between them into Cimmerian and wind-swept ravines have thus far turned out to be either chimerical or futile and ridiculous. They

have also the misfortune of being plausibly, however invidiously, regarded as urged in the interest of those who have already "improved" their landholdings in the commercial quarters of the great cities by building

sky-scrapers, and whose pretence of being "affected by a public interest" in opposing the building of other sky-scrapers, is ridiculed by those who have not yet "improved," and who desire to substitute competition for monopoly. Their attitude has already been likened, in print, to the attitude of the British rector, according to *Punch's* British agriculturist: "Pa'sson, 'e gets in 'is own hay, then 'e claps on the prayer for rain." Apparently it must be left to that future, not so far off, in which the multiplication and magnification of the sky-scrapers will become plainly incompatible with the well-being of the communities in which individual interest is permitted to override public interest, to devise some effectual limitation or restriction.

Meanwhile, it is to be noted that, architecturally, the skeleton construction has by no means "found itself." It was not to be expected that a new architectural type should be soon evolved from the exposi-

tion of a construction of which, as we have seen, concealment, by means of a "protective envelope," is of the essence. That the sky-scraper is essentially a frame building, not an agglutination of masonry, is, I was about to say, a manifest truth. But it is only during construction that it is manifest. When the building is "closed in," when the panels of masonry that fill up the frames of metal are in place, it is manifest



The Singer Building, 561 Broadway, New York.

The logical sky-scraper.

Ernest Flagg, architect.



Drawn by E. C. Peixotto.

The New Singer Building, New York.

Height from sidewalk to top of construction 612 feet 1 inch.

Ernest Flagg, architect.



Drawn by E. C. Peixotto.

The Metropolitan Building.

Height from sidewalk to top of construction 700 feet 3 inches.

N. LeBrun and Son, architects.

no longer. Efforts toward manifesting it have indeed been made, in such hopeful experiments as the Guaranty Building in Buffalo, the Bayard Building in New York, and the Singer Building, by no means to be confounded with that one of the same name and in the same city which wears the "record" tower. But upon the whole it is not an encouraging reflection how much less the skeleton construction has done toward the establishment of an architectural type, toward the creation of an architectural organism, than was done in the transitional tall buildings, when, of the coefficients that have gone to produce the extreme skyscraper, the passenger elevator was the only one in full force and effect. In those transitional buildings, when walls were still walls, the effect of depth and mass inhered in the thickness of the wall, requiring only artistic modelling and modification to elicit and emphasize its impressiveness. In the later development, the smooth expanse of wall, broken only by shallow openings,

with a minimum of what is technically and happily called "reveal," is expressionless, the more that the frame is hidden that would give it the beginning of expressiveness. The architect who would give his wall surface expression comparable to that of his prototypes of real masonry is driven to project his wall for the very purpose of withdrawing it again. True, he may crown it with a factitious and more or less fictitious feature, like the beetling tower of the Times Building, or the pinnacled diadem of the West Street Building, which the uninteresting building beneath lifts into the empyrean to become the cynosure of a justified admiration. But it were too much to say that he has succeeded in realizing in his skeletons such an impressiveness of expressiveness as belongs to the best of the transitional buildings, to the front of the Union Trust in Broadway, to the corniced tower of the Ames Building in Boston, to the towering pylons of the Monadnock in Chicago.

TWO MILES OF MILLIONAIRES.

New York's new section of Fifth Avenue residences that make a concentration of wealth and splendor not equaled in any other capital of the world—Some of the well known people whose homes stand for the plutocratic side of the metropolis.

THERE are a good many miles of millionaires in New York. The Bowery, the east side and the west side, down town and up town, and every neighborhood of the borough of Manhattan, and the boroughs of Brooklyn, Queens, Rich-

mond, and the Bronx—all these have their millionaires. In some sections there are few, in others many; but if all the millionaires living in Greater New York could be gathered together and were to reside on a single street there would be



THE UNION LEAGUE CLUB, FIFTH AVENUE AND THIRTY NINTH STREET.



THE RESIDENCE OF MR. CORNELIUS VANDERBILT, FIFTH AVENUE FROM FIFTY SEVENTH STREET TO FIFTY EIGHTH STREET.

From a copyrighted photograph by J. S. Johnston, New York.



RESIDENCE OF MR. JOHN JACOB ASTOR, FIFTH AVENUE AND SIXTY FIFTH STREET.



ST. PATRICK'S CATHEDRAL, FIFTH AVENUE EXTENDING FROM FIFTIETH TO FIFTY FIRST STREETS.

From a copyrighted photograph by J. S. Johnston, New York.



HOTELS NETHERLAND AND SAVOY, FIFTH AVENUE AND FIFTY NINTH STREET.

From a copyrighted photograph by J. S. Johnston, New York.

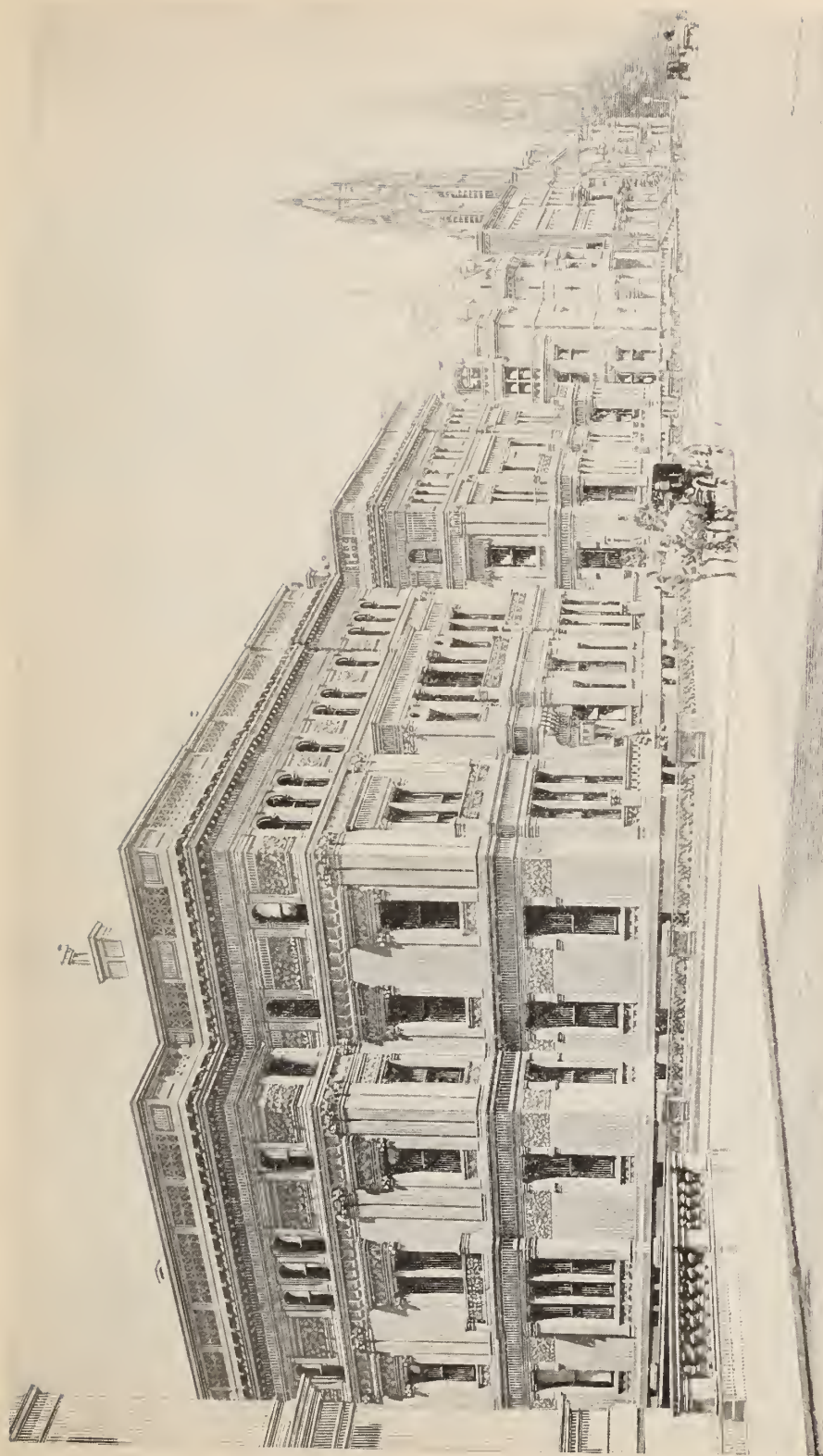
twenty continuous miles of them—perhaps more, possibly forty miles. But as these rich men are scattered all over the town, and as there is only one section where a very great number of them are congregated, it is of this section we speak.

Fifth Avenue is the backbone of New York, the spinal column. This is not only true geographically, but socially and financially as well. The two miles under consideration extend from Murray Hill to Eightieth Street, and in these two miles there is more wealth than can be found in any other residential two miles of any city of the world. It was only a

few years ago that the strictly millionaire line ran from Washington Square to Murray Hill; today it begins at Murray Hill and stretches northward almost as far as Harlem.

We have pictured only a few of the imposing buildings and handsome residences included in this new fashionable quarter. We could not give them all without devoting the entire magazine to this one article. Many of the buildings that we haven't pictured are quite as attractive architecturally as those we have.

This is the section of clubs and of palatial hotels, as well as of the homes of

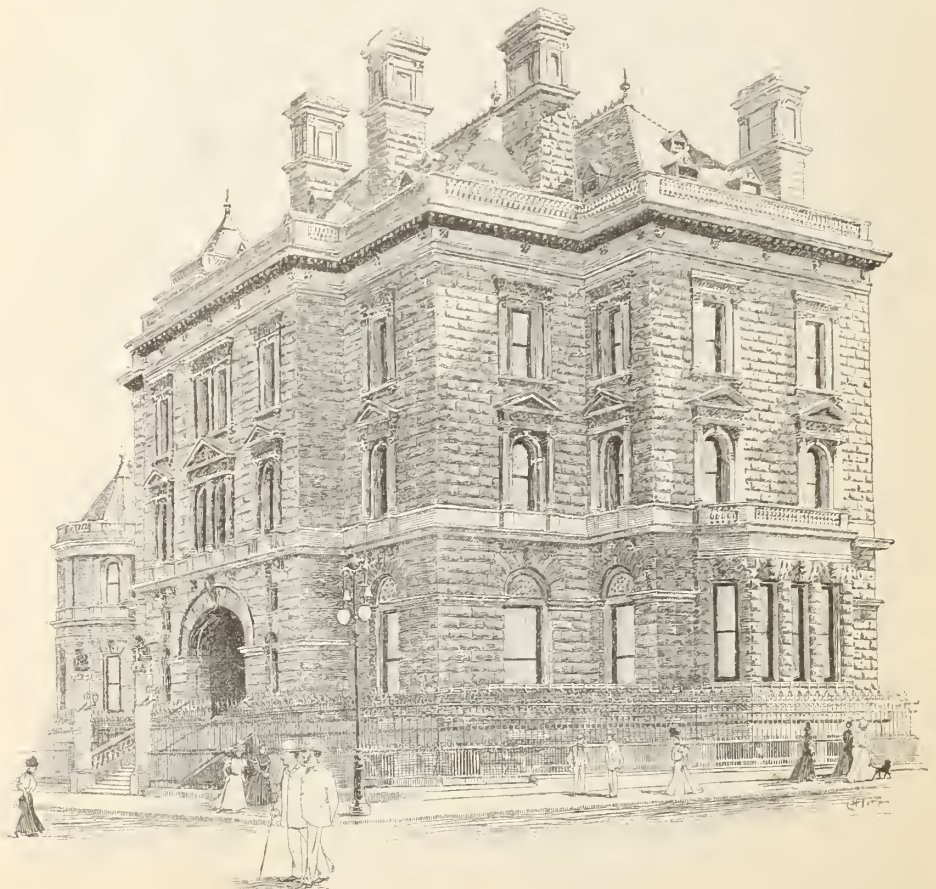


THE VANDERBILT RESIDENCES, FIFTH AVENUE EXTENDING FROM FIFTY FIRST TO FIFTY SECOND STREETS.
From a copyrighted photograph by J. S. Johnston, New York.

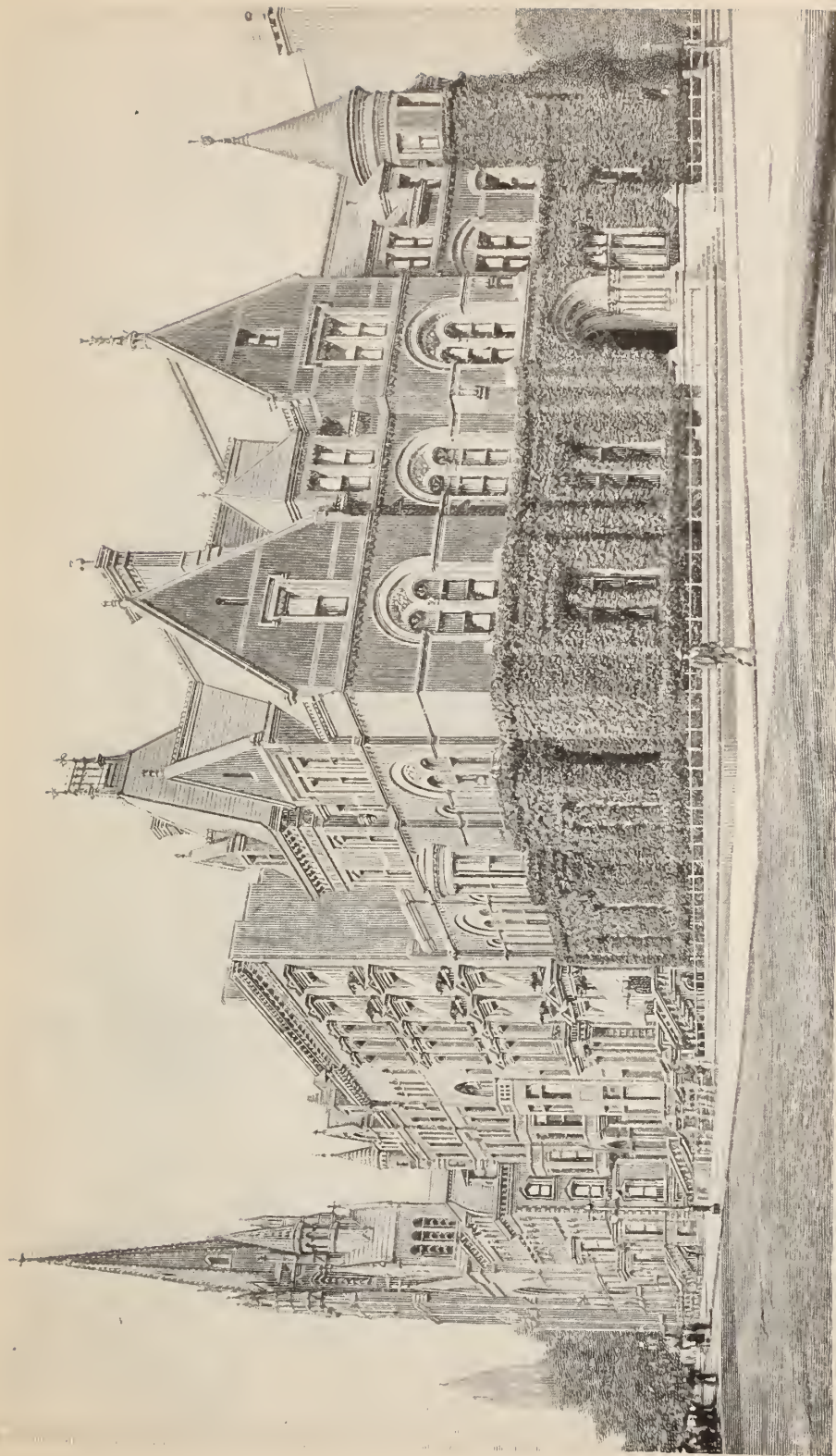


RESIDENCE OF MR. H. O. HAVEMEYER, FIFTH AVENUE AND SIXTY SIXTH STREET.

From a photograph by J. S. Johnston, New York



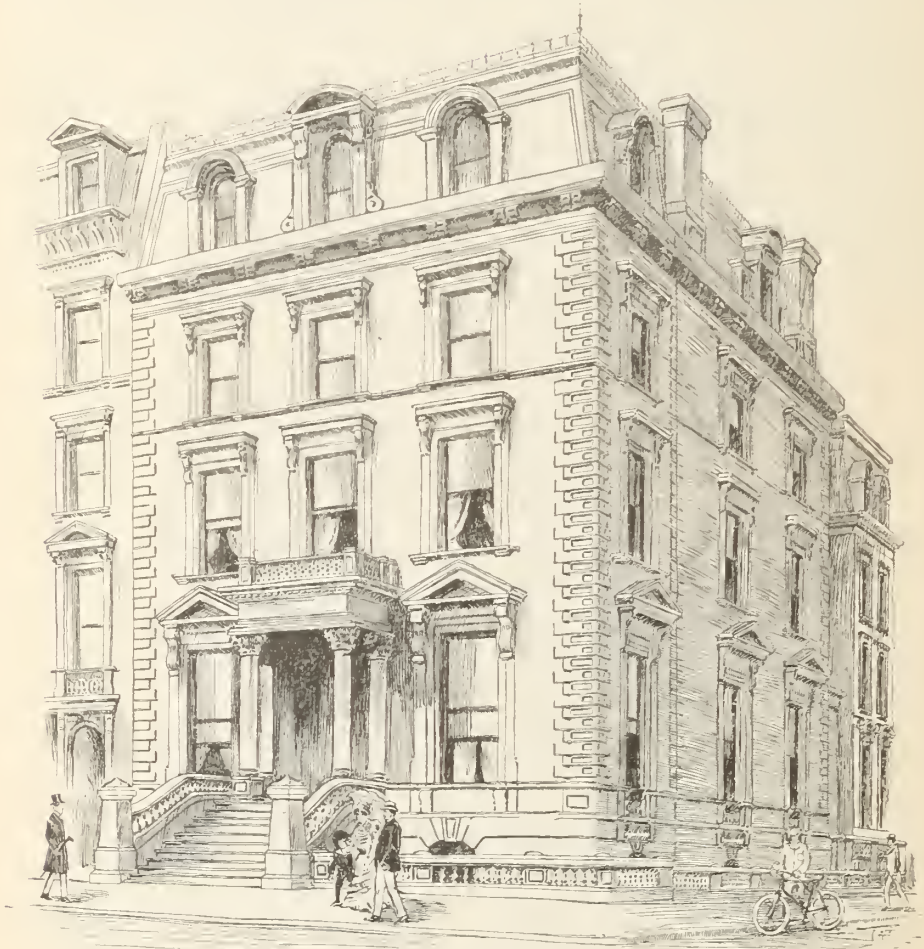
RESIDENCE OF MR. COLLIS P. HUNTINGTON, FIFTH AVENUE AND FIFTY SEVENTH STREET.



RESIDENCE OF MR. HARRY PAYNE WHITNEY, SOUTHWEST CORNER OF FIFTH AVENUE AND FIFTY SEVENTH STREET.
From a copyrighted photograph by J. S. Johnston, New York.

the Cræsus of the metropolis. No poor men reside within the limits of this plutocratic district. They cannot afford to do so. The aristocracy of descent and the aristocracy of brains are no more to be found here, except, perchance, the god of gold has smiled upon them, than are the

Fifth Avenue as in Piccadilly, and are the joy of the feminine heart. The whole avenue is alive with them. They flit here and there and everywhere—down in the shopping district, up among the big hotels and the clubs and the palaces that stir the passion of the socialist to envy.



RESIDENCE OF THE LATE JAY GOULD, FIFTH AVENUE AND FORTY SEVENTH STREET.

longshoremen or the draymen. And the reason for this is that none but the very wealthy can maintain homes on this the most expensive residential avenue of any capital.

The repaving of Fifth Avenue with asphalt last fall made it at once the delight of the bicyclist and the parade ground of the pleasure driver, and, in fact, of every one who can command a hansom. The hansom, by the way, has literally captured New York. They are as thick on

From 59th Street to 110th, Fifth Avenue runs along the east side of Central Park. This is the newest, the most exclusive, and the most fashionable part of the avenue. Here the lavish expenditure of money on the homes of the multimillionaires makes all the world marvel. No such row of palaces can be found in any other city—new, modern, beautiful, and all facing Central Park, with its soft green grass, its graceful and stately trees, its lakes and its walks and its drives.



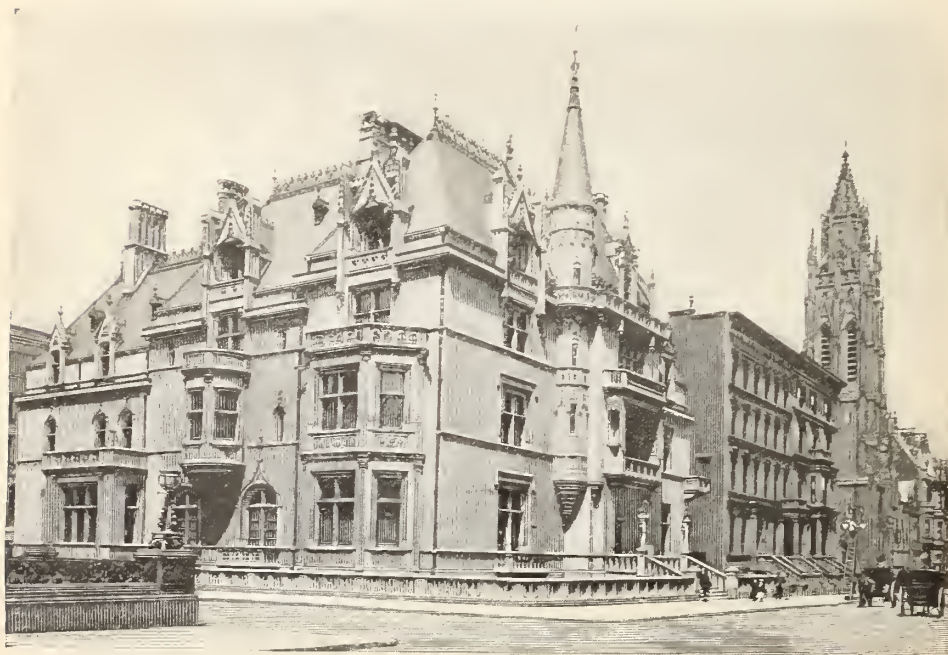
RESIDENCE OF MR. CHARLES T. YERKES, FIFTH AVENUE AND SIXTY EIGHTH STREET.



RESIDENCE OF MR. WILLIAM C. WHITNEY, FIFTH AVENUE AND SIXTY EIGHTH STREET.



THE METROPOLITAN CLUB, FIFTH AVENUE AND SIXTIETH STREET.



RESIDENCE OF MR. W. K. VANDERBILT, FIFTH AVENUE AND FIFTY SECOND STREET.

From a copyrighted photograph by J. S. Johnston, New York.



RESIDENCE OF MR. GEORGE GOULD, FIFTH AVENUE AND SIXTY SEVENTH STREET.

From a copyrighted photograph by J. S. Johnston, New York.

Here are a few of the names that go to make up the two miles of millionaires :

Frederick W. Vanderbilt	John W. Mackay	George Gould	Colonel Oliver H. Payne
Marshall Orme Wilson	William T. Aston	Isaac Stern	H. H. Cooke
Colonel Lawrence Kip	James Tolman Pyle	Charles F. Yerkes	Isaac V. Brokaw
Russell Sage	George W. Vanderbilt	William C. Whitney	H. M. Flagler
Henry B. Plant	William D. Sloane	John H. Inman	H. V. Newcomb
Mrs. Ogden Goelet	William K. Vanderbilt	H. R. Bishop	George A. Morrison
General Daniel Butterfield	Mrs. Elliott F. Shepard	John Sloane	William Rockefeller
William Ziegler	H. McK. Twombly	James A. Burden	Levi P. Morton
D. O. Mills	William S. Webb	James D. Layng	Calvin S. Brice
R. T. Wilson	F. Gallatin	Elbridge T. Gerry	James Everard
General Thomas T. Eckert	Harry Payne Whitney	W. V. Brokaw	Benjamin Brewster
Miss Helen Gould	Cornelius Vanderbilt	Isaac Wormser	Robert D. Evans
Frederick Roosevelt	Mrs. Moses Hopkins	H. O. Havemeyer	Herman Oelrichs
James B. Haggin	F. H. Benedict	Ogden Mills	Collis P. Huntington
Robert Goelet	Andrew Carnegie	John Jacob Astor	William E. Iselin

A single dozen of these names stand in round numbers for twelve hundred million dollars, or an average of one hundred million dollars each. These are startling



RESIDENCE OF MR. ISAAC V. BROKAW, FIFTH AVENUE AND SEVENTY NINTH STREET.

From a photograph by J. S. Johnston, New York.

figures, but how much more startling would they be if the total wealth of these Two Miles of Millionaires could be accurately stated. For instance, the combined Vanderbilt fortunes as represented by the Vanderbilts, the Webbs, the Sloanes, the Shepards, and the Twomblys, is perhaps five hundred million dollars. The wealth of the Astors, not including William Waldorf Astor, who now resides in England, is fully half as much more. William Rockefeller's fortune is a good second to that of the Astors, and he is followed closely by John W. Mackay, Colonel Oliver H. Payne, H. M. Flagler, Collis P. Huntington, George Gould, and Russell Sage. The foregoing represent the colossal fortunes of Fifth Avenue, but there are a good many estates and individual fortunes here that run up to possibly as much as thirty or forty million dollars each. Of course all the residents of this Two Miles of Millionaires are not on a par with the Vanderbilts,

the Astors, the Mackays, and the Huntingtons, but they are all rich. There is not enough known publicly, however, of the fortunes of the quieter families for us to give anything like an accurate estimate of the total wealth of this particular residential section. The man who is undoubtedly the richest in New York, and the richest in America, and the richest in the world as to that matter, is not included in this article, as he does not live on Fifth Avenue. We refer to John D. Rockefeller. He lives just off Fifth Avenue on West Fifty Fourth Street. We have not included in this article any of the rich men living on the cross streets running out of Fifth Avenue. We could not include them, as

they would not come strictly under the heading of the Two Miles of Millionaires we are discussing. If we were to diverge at all we should certainly have



PROGRESS CLUB, FIFTH AVENUE AND SIXTY THIRD STREET.

From a copyrighted photograph by J. S. Johnston, New York.



TEMPLE BETH-EL, FIFTH AVENUE AND SEVENTY SIXTH STREET, FROM ACROSS THE LILY POND IN CENTRAL PARK.

From a photograph by J. S. Johnston, New York

to take in J. Pierrepont Morgan, whose home is one block east on Madison Avenue.

But this section of Fifth Avenue is

the Windsor, the Buckingham, the Plaza, the Savoy, and the Netherland are the palatial hotels on this stretch of Fifth Avenue, and on this same stretch are the



ST. THOMAS' CHURCH, FIFTH AVENUE AND FIFTY THIRD STREET.

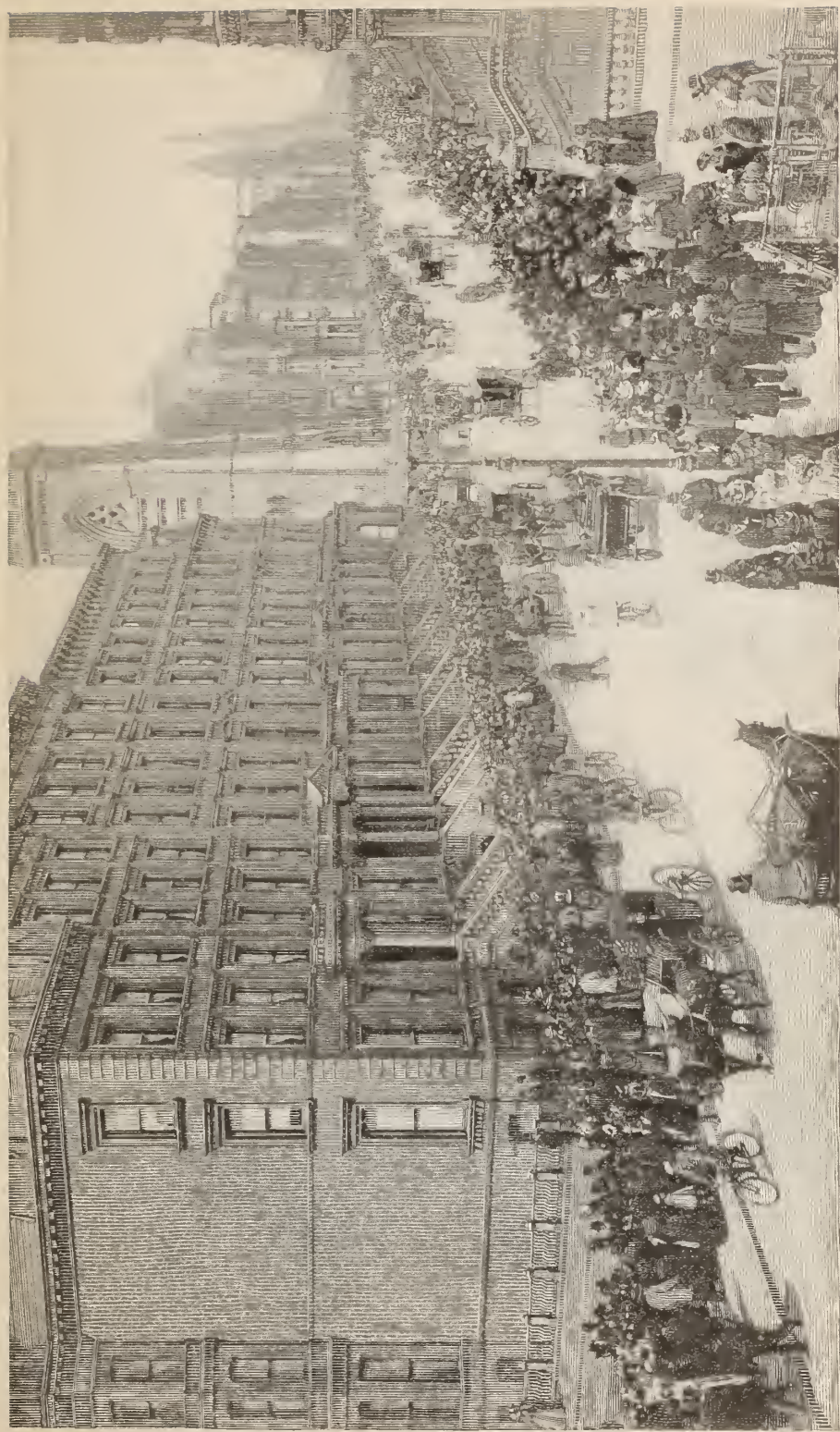
From a photograph by J. S. Johnston, New York.

relatively quite as strong socially as financially. The Astors, perhaps, head the list, of which the Vanderbilts, the Wilsons, the Goetts, the Whitneys, the Oelrichs, the Millses, the Twomblys, the Sloanes, the Webbs, the Bishops, the Gerrys, and the Mortons are among the most notable—all "Four Hundreders."

The Waldorf-Astoria, the Renaissance,

following clubs: the Manhattan, the New York, the Union League, the Republican, the Lotos, the Democratic, the University, the Military, the Metropolitan, and the Progress.

We made the statement that none but rich men, and we meant men of a good deal of wealth, lived in this district. So far as the individual homes go, this is



A VIEW OF FIFTH AVENUE LAST EASTER SUNDAY, FROM THE WINDSOR HOTEL, FORTY SIXTH STREET, LOOKING NORTH TOWARDS CENTRAL PARK.

From a photograph by R. F. Turnbull, New York.



RESIDENCE OF MR. H. H. COOKE, FIFTH AVENUE AND SEVENTY EIGHTH STREET.



A GLIMPSE OF FIFTH AVENUE OPPOSITE LENOX LIBRARY.

true, but an exception must be made regarding the residents of hotels and clubs. A man does not necessarily have to be a millionaire to make either of these his home. The cost of living in them, to be sure, is vastly in excess of that required in other sections of the town, but it is not so great as to be prohibitory to the man with a handsome income. The clubs in particular make it possible for him to reside in this ultra fashionable quarter and at a comparatively moderate outlay. They, however, can furnish a home only for the bachelor, or the man living as a bachelor. All these are denied to women. The hotels, then, are the only retreat for

the family man who aspires to live on Fifth Avenue and hasn't the means to support an individual establishment. And they make no mean homes either. They are in very fact palaces, luxuriously and artistically furnished. Indeed, so home-like and attractive are they that not a few families prefer them to housekeeping—families, too, who have the means to keep up first class independent residences. Since it has become the thing to own country places, a good many people find that the big modern hotel serves their purposes for the few winter months they elect to be in town better than housekeeping.





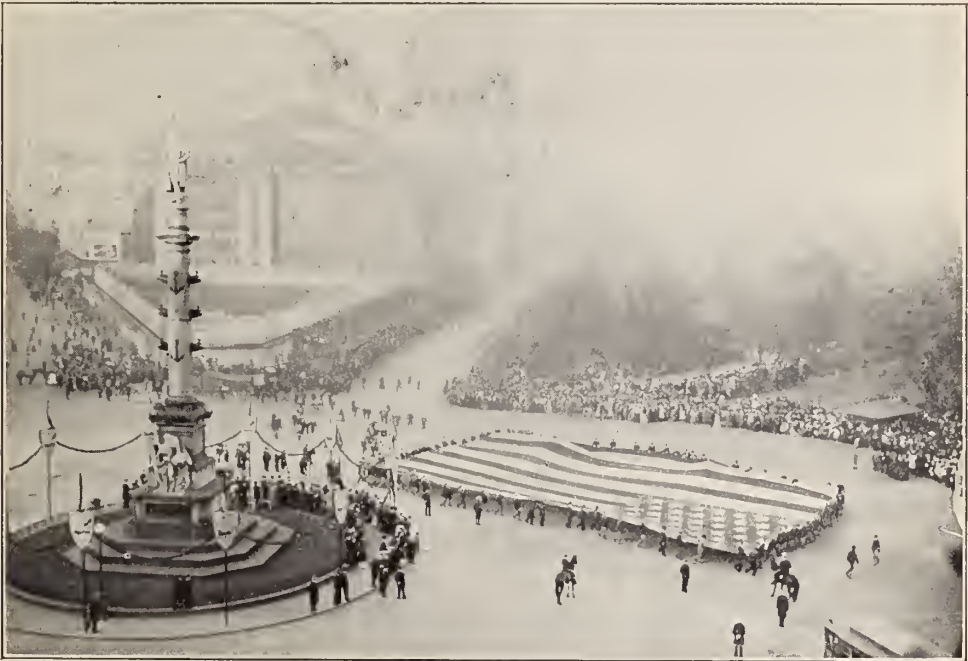
THE WORLD AT LARGE



ILLUMINATION AT THE COURT OF HONOR.—This was one of the most picturesque features of what is declared to be the grandest electrical illumination, on a large scale, that the world has ever known, and was part of the Hudson-Fulton Celebration at New York.



SOME OF THE TWO MILLION spectators who flanked the line of march of one of three great land pageants. The picture was taken from an upper story of the Flatiron Building and looks down on one of the great reviewing stands.



A MAMMOTH "OLD GLORY."—The huge flag as it appeared passing through Columbus Circle carried by nearly a hundred Spanish-American War Veterans.



REPLICA OF THE "HALF MOON."—Hendrick Hudson's craft approaching the great fleet of war vessels assembled in the lower Hudson River. The sturdy little ship was saluted by twenty-one guns from each man-of-war.



MILES OF SOLDIERS.—The 23rd Regiment, N. G., of Brooklyn, passing down lower Fifth Avenue near the end of the six-mile march. Stretching along the sides of the Avenue may be seen the strings of electric bulbs which illuminated the entire line of march by night.



THEN—AND NOW!—Robert Fulton's resurrected *Clermont* passing up the Hudson under full steam. Ahead may be seen some of the seventy-odd vessels of war anchored in the river.



PRESIDENT TAFT ON THE LOOKOUT.—The President is looking on at the formal opening of the Gunnison Tunnel at Montrose, Colo. This forms a mere incident in his little jaunt of 15,000 miles.



THE PRESIDENT AT SEATTLE.—Mr. Taft's visit was the occasion for many festivities and picturesque demonstrations. The President visited the Alaska-Yukon Exposition which he had previously opened, by means of an electrical device, from the White House last May.

The Wall Street Nuisance

By Herbert N. Casson

EDITORIAL NOTE.—Until Wall Street is renovated—purged of its gambling viciousness—there can be no permanent peace and prosperity in this country. Just so long as stocks are created solely for speculation and are made to yield false-bottomed, manufactured dividends, honest and legitimate business must suffer. Wall Street gambling breeds disaster, high and low: a United States Senator or a European Minister is corrupted as readily as a clerk is ruined.

If the Stock Exchange were simply a place where 1,100 brokers wagered with their own money the general public would not be affected. But the Stock Exchange gambles with the capital and resources of the American people, drawing millions from legitimate industry to be fed through the gambling mills. Consequently, under all the political fuss and feathers now in the air, one fundamental, paramount problem to be settled by the next President and the next Congress is this: How shall we regulate our banking system and the Stock Exchange? Is Wall Street, which Mr. Casson assails as a national nuisance, rotten to the core? Or is its evil complexion misleading? All that is GOOD, of course, demands saving—destroy the BAD.

Mr. Casson bases his criticism on fifteen years of study and close observation. He has seen Wall Street from many sides—has lived East, West, and South; chummed with longshoremen and millionaires; edited labor papers and Wall Street dailies; defended organized labor and organized capital, and at all times has struck for the square deal. He scores some heavy blows here, but we believe none of them hits unfairly.

SINCE the Louisiana Lottery was destroyed by the officers of the law in 1893, the American people have pushed ahead to exterminate gambling in all its forms. New York, Illinois, and Missouri have recently outlawed the bettors of the race track and closed up the bucket shops. Canfield—the Fifth Avenue gambler, has been chased to Paris; and Pat Sheedy is now the proprietor of an art store. The policy sharks have been swept out of the slums. Gambling machines are extinct. Poolrooms are as hard to find as buried treasure. Even crap shooting is prohibited. And in Texas, whoever dares to play a quiet game of poker is liable to be dragged to jail as a common criminal.

"The gambler must go," says American public opinion; and so far as the small gamblers are concerned, they are either gone or on their way. Only the Big Gamblers are left; and it is a startling fact that *the Wheat Pit and the Stock Exchange are now the last strongholds of gambling in the United States.*

There needs to be no new law to stop gambling in stocks. Gambling of any kind is now, and has always been, against the spirit and the letter of our law. Does not the

Constitution of New York State forbid "pool selling and every other kind of gambling"? Does not the new Bucket-Shop Law prohibit all "bets or wagers made to depend upon the future price of stocks, bonds, securities, commodities or property of any description whatever"? Yet up to the present time what has the law done to Wall Street? Absolutely nothing, except to wipe out its little competitors—the Bucket Shops—and enable it to become one of the most gigantic Gambling Monopolies on the face of the earth.

It has always been an open secret, of course, that the greatest part of a Stock Exchange's business was pure gambling; but we, the outside public, did not know until recently the full truth about the Wall Street game. To-day, thanks to the failure of certain brokers and the loud talking of certain others, we know that Wall Street is the greatest and crookedest gambling establishment in the world, and only incidentally a place where stocks can be bought legitimately for investment.

Ninety-nine and one half per cent of all Wall Street transactions are nothing but bets upon the rise and fall of stocks, says Tom Lawson, the Boston broker. I do not quote

Lawson as an authority. He is a finished product of the Stock Exchange—a self-confessed gamester, who is at the present time having the supreme impudence to invite the honest American public to gamble with him on a coöperative basis. But up to this month of November, 1908, Wall Street has not brought any suit for libel against Lawson, and has not officially made any attempt whatever to deny his astounding accusations.

Not even a professional Wall Streeter dares nowadays to claim that the Stock Exchange is an "investment market." He knows that fifty or sixty of its stocks are paying no dividends at all, and yet are bought and sold every day. He knows that half of the 1,100 brokers never buy or sell for the outside public; and that 100 of them are "room traders," who do no commission work whatever, but play the game merely for their own profit and amusement.

WALL STREET A VAST MONTE CARLO

My personal opinion, after nine years of observation in the Wall Street region, is that the Stock Exchange is a vast Monte Carlo pure and simple, and that if it were compelled to obey the law, it would shrivel to the size of an ordinary bank, with a staff of fifty broker clerks, or perhaps not so many.

For more than a hundred years the New York Stock Exchange has flourished and been as unregulated as though it were Trinity Church. It has never been investigated by any public official. It is irresponsible and strictly private. It makes no reports to the State, or any authority anywhere. It is outside of the law. It has its own money, manners, and morals. It is not in reality a part of the United States at all, but rather a privileged exception to the civilization which has grown up around it.

Every railway in New York State, even if it is no longer than a clothesline, must make itemized reports and swear that such reports are true. Every tiny bank, with \$50,000 capital, must be inspected and supervised by State officials. Yet here is this gluttoned and pampered Stock Exchange, swollen until it is almost equal to the United States Treasury itself, and handling in half a year as many billions as would buy our whole railway system at its face value, as free from regulation as if it were a Y. M. C. A. or a Methodist camp meeting.

Wall Street is a law to itself. Here is the chief rotten spot from which all the contagion

comes. It has a legislation and a language of its own. Its ways are not as our ways nor its thoughts as our thoughts. So far as the outside public is concerned, the whole Wall Street region is a land of midnight and mystery, and every broker knows that if the lights were turned on, they would all have to run for their lives like rats that are caught in a grain bin.

Wall Street has made itself into a mysterious Mumbo Jumbo of finance. That is why it has lived so long and been let alone. It would have been fumigated or flung on the dump heap long ago if the honest capitalists and farmers and wage-workers had learned the A B C of its language. Once let the people understand the idle gaming of "margin trading," the rascality of "wash sales" and overcertified checks, and the terrific criminality of a "corner" and a "squeeze," and they will put an end to the Wall Street game in swift American style.

Every now and then—six times last year—one of the broker dives falls over with a crash and a frantic commotion, and the public gets a glimpse of its inside deviltries before the "Hush-it-up" committee arrives on the scene. By this means we know that fake sales are being made to fool outsiders—that the stocks belonging to customers are pawned to the banks by "honorable and conservative" brokers—that many banks and trust companies are gambling to the limit with the money of widows and orphans—and that the whole Wall Street region is overrun by a mob of professional gamblers, so mixed and blended in with the decent brokers that no investor can tell which is which.

THE SIMPLE TALE OF CLARENCE—WALL STREET EXPLAINED

Now, I want to make this article simple and clear. Wall Street has often been denounced, but seldom described, by those who have been in its jungles. Perhaps I can open up its mysteries best by telling a boy-story. I had a chum named Clarence, when I was twelve years old. He was a meek-looking boy, but he was possessed of a sinister sort of genius. He invented a system of gambling on the weather which for a time demoralized most of the boys in our village. His plan was this: each boy would pay five marbles into a pool and then guess what the temperature would be at a certain hour in the day. Whoever guessed nearest to the correct number was the winner and took all the marbles. And all of our bets were decided by the big

thermometer that hung outside the school-room door.

For a time, during that winter, we neglected our lessons—our chores—everything, to play this fascinating game of weather-betting. We studied the clouds, and the wind, and every almanac we could find, so as to get tips on what that old thermometer was going to do. All else was forgotten. We won marbles and lost marbles, but never by any chance did we *play* marbles, until the weather-betting mania came to a sudden and inglorious close.

It was Clarence who stopped the betting as well as began it. He was too smart. One day he persuaded us to bet twenty marbles apiece, and then he won so easily that he made us suspicious. He guessed ten degrees lower than any of us, and the thermometer was with him. But one of the boys made a sudden dash for the thermometer and found a small nugget of ice wedged in at the foot of the mercury tube. That was enough. We grabbed Clarence and stood him on his head until all his marbles fell on the ground; then we gave him several dozen kicks and chased him home. To-day he is a well-known financier in Illinois, and has learned to get an injunction against anyone who tries to take away his winnings; but that day in the school-yard, when he was caught with the iced thermometer, he certainly got all the justice that nine pairs of boots could deal out to him.

Now, you can see right here the plan of the whole Wall Street business. At least nine tenths of it could be done just as well with a thermometer as with stocks, and with infinitely less danger to prosperity. Stock gambling and weather-betting are exactly alike in all important respects. The one is just as juvenile and useless as the other.

"WASH SALES" AND "MATCHED ORDERS"

What is a "wash sale"? Nothing more than the icing of the thermometer. If Clarence had succeeded with his ice trick, no doubt he would have been ready for us the next day with a hot bullet to make the mercury rise. One third of all the so-called business of Wall Street consists of putting ice or hot bullets on the thermometer of stock prices. Brokers call this "manipulation," or "wash sales," or "matched orders," or "sales in circles"—Harriman's latest phrase. It is done like this: Suppose a clever manipulator wants to raise the price of a stock. He

gives one broker an order to sell 100 shares at a slightly higher price than it is selling for, and at the same time gives another broker an order to buy this 100 shares. He repeats this operation again and again, always raising the price as high as he can without being suspected. He does not in reality sell any stock or buy any stock. It is all a farce—a humbug—a cheat, so as to excite outsiders into buying this stock at a higher price. If he wants to beat down the price of a stock, so as to buy it cheaper, he adopts the same methods, except that the two brokers are ordered to buy and sell at lower and lower prices.

AN "OVERCERTIFIED CHECK" EXPLAINED

These "wash sales"—so called because one hand washes the other and because one broker balances the other—are made every hour in the New York Stock Exchange. They are dishonest and illegal—as rascally as the loaded dice or the marked card or the doped racehorse; yet they are the very life and essential of the Wall Street game as it is played to-day. *Abolish "wash sales" and one third of the 1,100 brokers—perhaps two thirds of them—would find themselves in the ranks of the unemployed.*

The fingers that pull the wires are away back somewhere in densest darkness. When a blow is struck, nobody knows by whom. The surest thing is a guess. There is no proof—no evidence—no publicity. Wu Ting Fang, the shrewd old Chinese Ambassador, was on a recent occasion asked if he had ever played the stock market. "No," said Wu, "I prefer to play a game where I can see the dealer."

Take another Wall Street humbug—the overcertified check. What does it mean? Simply this: Suppose Clarence had come to school one morning without any marbles, but with a paper signed by his mother, certifying that he had a hundred marbles at home on the mantelpiece. Suppose that, on account of this certified marble check, we let Clarence join our game of weather-betting, and that he lost ninety marbles. Then suppose that the boys who won take the paper and go to Clarence's mother to get the marbles. To their disgust, they learn that Clarence has only seven marbles, and had coaxed his mother to say that he had a hundred. This would be a clear case of a check that was overcertified.

This crime, for it is a penitentiary offense,

—it is a violation of a Federal law—is committed by Wall Street bankers every week-day in the year. It wrecked the big Seventh National Bank of New York, in 1901, and it puts a score of banks in peril every time a cyclone of panic hurls terror into the hearts of the gamblers.

The usual custom is as follows: A broker agrees to leave a cash balance of \$50,000 at a bank, and the banker, in return for the use of the money, agrees to certify the broker's check to the extent of \$1,000,000. In simple, everyday words, the banker practically says to the broker: "Lend me \$50,000 and I'll back you in your stock gambling with a million dollars' worth of this bank's credit."

"MARGINAL TRADING" IS A JUGGLE OF BETS AND GAMBLING

As you can see, an overcertified check has nothing behind it but the lie of a banker. It is counterfeit money. It puts the deposits of the bank in danger. It throws the savings of honest people into the Wall Street hopper. Yet the law that forbids it is a dead letter, and there are respectable, church-going bankers—defenders of "sound money" and the national honor—who think no more of breaking this law than they do of snipping their finger-nails.

Remember, I do not say that all the business done in Wall Street is a mere game of weather-betting. Brokers do buy and sell real stocks with real money. They are very useful and convenient for those who wish to buy or sell stock in a hurry. *But this legitimate business that brokers do has become only a small item in comparison with the make-believe business.* It is the perpetual Wall Street trick to excuse what is false by pointing to what is real. As well might we justify Monte Carlo because it sells coffee and cigars.

It is the gambler, not the investor, who makes the brokers fat. If there were no gambling, there would still be brokers, but not many. There would still be a Stock Exchange, but not a \$9,000,000 one. There would still be selling of stock, but not at the rate of a million dollars a minute.

"Marginal trading"—that is the clean, respectable name that Wall Street uses when it talks of gambling. "Marginal trading!" Let us see whether it differs from weather-betting. Here is a grocer named Johnson, for instance, who is persuaded by a broker to risk \$1,000 on Baltimore & Ohio stock,

which is selling at par—\$100 a share. The broker does not buy ten shares and mail them to Johnson. Not at all. He buys 100 shares and pawns them at a bank for \$9,000.

For every unit the stock advances Johnson makes \$100 profit, and for every unit it decreases he loses \$100. If the price of the stock should jump up to 110, he would double his \$1,000. If it should drop to 90, he would lose every dollar of it, because the banker would sell the 100 shares to get the \$9,000 back. Johnson could protect himself only by giving the banker a second \$1,000, which would hold the stock unless the price dropped to 80, when a third thousand would be called for, and so on.

In Wall Street language, Johnson was a "lamb." If the price had dropped to 90, and he lost his money, he would have been "shorn." He expected the stock to rise, so he was a "bull." If he had expected the stock to fall, the broker would have borrowed 100 shares and sold them, in the hope of returning the stock when it was cheaper. In this case Johnson would have been a "bear."

Now, if Johnson had been an investor, and had bought ten shares to take home and put in his safe, the broker's fee would have been only \$1.25. But when Johnson becomes a gambler, buys 100 shares and sells them again, the broker's fee is \$25, because the broker collects his commission on both ends of the transaction, i. e., when Johnson buys and again when he sells. Also, when Johnson gambles, the bank gets high interest on \$9,000. And there you have, in a nutshell, the reason why the brokers and the bankers do not abolish gambling in Wall Street.

This "marginal trading" is *betting*, not *buying*. The stocks are not delivered to the buyer. He may buy and sell for weeks or years and never see a share of the stock he is supposed to possess. He is not dealing in properties, but merely juggling with the prices and the names of properties.

NINE TENTHS OF THE BROKERS ARE GAMBLERS

There are only twelve cities in the United States that are assessed for as much as the tiny block of real estate which is called the Wall Street district. Put the whole of this district into grass and it would not feed a cow, yet it is worth more than all the land and buildings of *fourteen States*. Tell that, if you dare to, to the ghost of Andrew Jackson!

There are 1,100 brokers who own and operate the Stock Exchange. Half of them

are mere clerks and messenger boys who run errands for the big outside plungers, yet the market value of their membership cards averages \$75,000 apiece. Bulk its 1,100 initiation fees together, and they amount to more than \$8,000,000—as much as the total revenue of the United States Post Office at the time of the Civil War.

The complete Wall Street group (brokers, clerks and all) would make a city of 20,000 men—as many men as there are in Dallas or Des Moines. Last year they paid a State tax of \$6,000,000 on transfers of stock which shows that their own income must have been at least \$36,000,000. But as this tax has been dodged by lawless brokers whenever possible, and as half of the 1,100 brokers are professional stock gamblers, the total loot pulled in last year was probably not less than a hundred millions. This incredible sum of money—enough to put a barrel of flour in every American home, was taken out of other men's pockets by gambling as well defined as any Monte Carlo ever saw.

The outfit with which all this great game is conducted in Wall Street is enough to make Monte Carlo envious. The Stock Exchange itself is a marble palace, in the bull's-eye center of three hundred skyscrapers that are packed with a money-mad host. This palace is linked by wire with 250 branch offices in fifty cities. It has 5,000 tickers in New York, 25 private wires to Chicago—30 to Philadelphia—50 to Boston. The Exchange is fitted up with every convenience that the brain of man can devise—telegraph, telephone, cable, its own papers twice a day, news slips every quarter of an hour, and stock sales every minute. The paper ribbon that was fed to the Wall Street tickers last year weighed 400,000 pounds; and the Wall Street news of a single year would make 270,000,000 copies of HAMPTON'S MAGAZINE.

ONE SIXTH OF OUR NATIONAL WEALTH IN WALL STREET'S OPERATIONS

In addition to the 20,000 brokers and employees, there are fully 20,000 more who serve the Stock Exchange as outsiders, and at least 60,000 men who are either playing or watching the game. Here is a vast army of 100,000 men—as many as there are in Cincinnati or the State of New Hampshire, who are taken away from the real work of the world and transformed into social parasites or worse.

Impossible as it seems when it is set down in

plain language, and not in the lingo of the gamblers, we have given Wall Street \$20,000,000,000 worth of our national wealth to play with. We have tossed one sixth of all our possessions into this lawless betting ring. Practically all our railways and one half of our manufacturing interests are included in the Wall Street outfit.

But all these Wall Street totals are dwarfed when we look at the immense bulk of what it cynically calls its "business." During the past year, the volume of its traffic has been about \$60,000,000 a day, although there was one wild Saturday morning last August when \$150,000,000 was dealt in at the rate of a million and a quarter a minute. And in that year of rip-roaring speculation—1906, Wall Street was clogged with a torrent of gambling that left a high-water mark of twenty-three thousand millions.

A PARTIAL LIST OF WRETCHED VICTIMS

Twenty-three Billion Dollars! Sixteen millions every business hour. Nowhere in the legitimate commerce of the world is there any such showing as this. It is three times the product of ten million American farms and eight times more than all the money in the United States. *At this rate these 1,100 brokers would sell up the whole republic, bag and baggage, in five years.*

Such are the Big Facts about Wall Street, very gratifying to the pride and the pocket of the 1,100 brokers in the white marble palace. But from the point of view of the average American citizen, whose money comes hard and slowly, this mushroom growth of speculation must be stopped. We who are not brokers believe that it is not worth what it costs.

One very reliable authority tells me that the panic losses of last year were more than a hundred millions, and that in twenty-five years no less than two and a half billions were squandered in stock gambling. This, of course, is no more than a guess. The real sum may be twice as large. Wall Street is so dark and pathless that no one, up to the present time, has ever had any exact census of its gains and losses. But the newspapers have made a more or less veracious list of a few of the most distinguished victims of Wall Street speculation since 1900:

Louis Lipman, bookkeeper.....	\$200,000
Wm. T. Walker, New Britain.....	600,000
Frank K. Hipple, President Real Estate Trust Company, Philadelphia.....	7,000,000

Gordon Dubrose, banker, Ensley, Ala...	\$40,000
F. E. Smith, County Treasurer, Akron, Ohio.....	282,000
Jos. A. Turney, banker.....	34,000
F. R. Green.....	300,000
T. Lee Clarke.....	1,200,000
N. C. Dougherty, Superintendent of Schools, Peoria.....	250,000
F. H. Palmer, banker.....	40,000
Frank G. Bigelow, President First National Bank, Milwaukee, Wis.....	1,450,000
Wm. H. Belcher, Mayor of Paterson, N. J.....	150,000
W. W. Karr, Smithsonian Institution....	50,000
Paul O. Stensland, banker.....	1,500,000
E. J. Smith, Tax Collector of San Francisco.....	60,000
F. H. Cutting, bank president.....	112,000
S. F. Smith, ex-Mayor of Davenport, Ia.	150,000
W. H. Hain, financial agent.....	286,000
G. A. Rose, Cashier of Cleveland Produce Exchange.....	170,000
Arnold Beathlin, bank cashier.....	85,000
T. W. Dewey, bank cashier.....	125,000
Wm. B. Given, capitalist.....	100,000
John A. Scott, life insurance.....	25,000
E. L. Cowart, bank cashier.....	40,000
Wm. S. Allen, Treasurer Preachers' Aid Society, Boston.....	70,000
F. V. La Bountie, lawyer.....	500,000
C. J. Alvord, banker.....	600,000
Wm. Schrieber, bank cashier.....	106,000

These men were in positions of trust eight years ago. They were given the keeping of other people's money. They were useful and respected citizens. But Wall Street got them; and to-day some are dead; some are in jail; but the brokers are doing business in the same old place and in the same old way.

WHERE KINGS THEMSELVES GAMBLE

Wall Street is no respecter of persons or places. It is now an international evil. Its traps are snaring clerks and kings alike. Alberti, the Danish Minister of Justice, is at this moment in jail, because he risked \$2,500,000 of other people's money in Wall Street and lost. King Leopold, of Belgium, is an inveterate stock gambler; and so is Edward of England, though the latter takes care, when he loses, to make some of his rich American friends pay the bills.

Wall Street speculators come and go like the leaves of the forest. Few of them last three years. But the whole American nation has practically been flung into this reel of loop-the-loop finance. Seventeen million life-insurance policy holders are playing the game by proxy, whether they wish to or not. And out of the ten billions in all the banks in the United States, three billions are massed in New York, as close to the betting ring as possible.

Blood, too, as well as money, is poured out in Wall Street. Scarcely a week has passed since the panic without recording the suicide of some one who had been drawn into the Wall Street net.

If Wall Street ruined its own gamblers and nobody else, it would be a local nuisance. It would not be worth my while to write this article, nor your while to read it. *But Wall Street touches every man, woman, and child in the United States.* How? By draining the country of money—by compelling the people who work to support the people who gamble—and by keeping the whole nation in a state of uncertainty because of its booms and panics.

YOUR BANK ACCOUNT IS USED BY WALL STREET'S GAMBLERS

For example, here is an enterprising honest man named Clark, who lives in Pueblo. He wants to start a furniture factory. He needs more capital—about \$10,000—and goes to borrow it from a banker.

"Very sorry," says the cashier, rather confusedly, "but we can't oblige you."

"Why not?" asks Clark.

"Tight money," replies the cashier. "Our money is in New York, and we can't get it back until the stringency is over."

Clark, being a common hard-handed business man, can't understand it. He does not know that the money which Pueblo citizens put into this bank is being loaned to Wall Street gamblers, so that they can play the game with higher stakes. Gamblers pay the highest rate of interest. On desperate occasions they will pay 25 per cent, 50 per cent, 100 per cent—yes, even 200 per cent, to safeguard their bets. That is why Wall Street is a banker's heaven, and why there are so many money-droughts elsewhere.

But Clark is not yet through with Wall Street. To build his factory he needs 200 tons of steel. He is surprised at the price. It is \$2,000 more than he can afford, and for a time he is blocked again. The steel is dear because the steel company is trying to pay dividends on millions of watered stock, which was issued for gambling purposes by a group of Wall Street speculators. And so Clark, who is two thousand miles from New York, is hampered and overcharged in order that stock gambling may flourish.

Wall Street gives two main reasons why it should be let alone—(1) it is a private enterprise, and (2) it is the financial center of the United States. Both of these claims are

false and absurd. The fact is that it is no more private than a railroad. The stocks that it gambles with are owned by 400,000 people in all parts of the world; and anyone may at any time make use of its facilities. You will be pushed back into the street by a grim sentinel in uniform if you try to enter the Exchange itself; and even the gallery is closed to you unless you gain the favor of a broker. But your money will not be pushed back. No matter who you are—no matter how you got the money, you can place your bets on the ping-ponged stocks as freely as though you were St. Rockefeller himself.

WALL STREET MUST CLEAN HOUSE—OR QUIT!

As to the boast that Wall Street is the financial center of the United States, nothing could be more preposterous. As well might we say that Maxim's is the intellectual center of Paris, or that Coney Island is the social center of New York. The real financial center of this country, if you wish to know the truth, is under Mr. J. P. Morgan's hat. But it is not, and never has been, in the betting ring of the Stock Exchange. The latter is neither more nor less than this—an open market for certain securities, which, through public neglect, has been bedeviled into a gambling hell of amazing magnitude and prestige.

The Stock Exchange is not any more indispensable to legitimate business men than a poolroom is to a stock farm or than a drunken Indian is to a field of barley. Every straight-fibered capitalist abhors it. The men who really direct and operate the railroads, traction and sustaining industries of the nation—the clean, able business men who are striving to carry on their work successfully under and despite conditions indexed by vicious stock-watering and law-defying methods of high-finance—unanimously condemn Wall Street and wish its incubus might be lifted from their shoulders. Its costly outfit and array of brokers is not at all necessary for the legitimate buying and selling of stocks. Capital should be fluent, certainly; but Wall Street makes it gaseous. It should be alert, but Wall Street makes it frenzied. It should be willing to take risks, but Wall Street creates a thousand artificial risks and uncertainties.

To construct a solid business system upon a Wall Street basis is as impossible as to build skyscrapers upon the quaking soil of Japan.

Business demands stability and confidence above all else, while the whole practice of Wall Street is designed to unsettle and agitate and seesaw prices up and down, so that the aim of the constructive capitalist may be prevented and the aim of the gambler accomplished.

Wall Street must clean up or quit. This is the verdict of the American people, whose property has become a playtoy for a pack of reckless gamblers. From every State in the Union comes a demand that this cancer of speculation shall be knifed before it eats into the vital organs of the nation. Roosevelt has said that he can see no moral difference between stock gambling and the betting at a race track. Bryan bluntly says the Stock Exchange is "a den of thieves." And I doubt if there is a single church or trade union, or manufacturer's club, or farmers' association, in any part of the United States which would pass a resolution in favor of the Stock Exchange.

All honest men in the Wall Street region, even among the brokers themselves, know that the Stock Exchange must clean up or quit. Months ago the *Wall Street Journal* said plainly: "If we do not reform ourselves, we shall be reformed by outsiders." It freely admits that "the bulk of market manipulation is unquestionably deceptive." And during a "bear raid" last August, when an unprincipled young plunger was playing fast and loose with \$150,000,000, a veteran broker shook his head and said: "I wouldn't be surprised if we all got pinched for this; it almost warrants police interference."

TO YOU—KEEP OUT OF WALL STREET!

Wall Street has very nearly had its day; and it certainly will never again have the free-for-all times of 1906. In spite of its colossal bluff, its respectable friends, and its overcertified checks, it is about to be raked into the daylight of publicity. When that long-delayed day arrives and when the doors of the Stock Exchange are at last jerked open to the light of law and common honesty, there will be (I venture to set this down as a prophecy) the most sensational exposure of refined rascality on a gigantic scale that this generation of Americans has ever seen. And in the mean time I would say—*Keep out of Wall Street. Have nothing to do with all its stocks, no matter how cheap they are, until it quits its gambling and obeys the law.*

HOW NEW YORK'S CITY HALL WAS BUILT.



THE NEW YORK CITY HALL IS NOTABLE FOR TWO THINGS: IT IS A PERFECT EXAMPLE OF CLASSICAL ART, AND IT WAS BUILT WITHOUT GRAFT.

THERE was a time when the New York City Hall seemed not only a beautiful but a stately edifice. To-day it stands dwarfed into the proportions almost of an architect's model, because of the gigantic structures which rise near it and overshadow it with their huge fronts and towers. Yet the City Hall still remains one of the purest specimens of Italian architecture to be found anywhere in the United States. Its lines and proportions are exquisite. It is still a gem of art, even though it affords inadequate accommodation for the officials who tenant it.

If one were to look through the old portfolios of Mr. John McComb, who was its architect, there would be found many things which stand out in striking contrast to the political methods of the present day; while the architect's diary contains notes which are no less curious. The old portfolio holds the plans of the structure, together with large scale-drawings of the interior, the staircase-studies, and the original cupola, each drawn with wonderful nicety and care. These remind us of what one can find in the National Gallery at London, where there are exhibited, first the pencil sketch, then the sepia, then the pen-and-ink drawing, and lastly the finished work of Turner.

There are also McComb's precisely drawn details for the capitals of the first and second orders, where the Ionic entablatures are sketched in perfect proportions, and the Corinthian order with delicate modillions—all traced with a care and purity that put to shame so much of the haphazard work of the present time. McComb's conception was carried out by one John Lemaire.

It is interesting to know that the municipal committee which was in charge of the construction paid for all these finished plans and elevations the enormous sum of \$350; and that the architect himself gave his whole time to overseeing the work in return for a payment of six dollars a day!

The City Hall was begun in April, 1803. The mayor and aldermen took possession of it in 1811. Two years had been occupied in wrangling over the details. Until lately, when the building was painted, people in passing often noted that while the front and sides of the City Hall were of white marble, the rear was of brownstone. It is interesting to learn the reason for this. Mr. McComb, the architect, wished the building to be wholly made of marble; but the committee felt that they had conceded a great deal in consenting to have the hall built so very far up-town. No one, they said, would ever think anything about the rear of the building; so that to make it of marble would be a

great waste of money, especially as it was found that a brownstone quarry at Newark could be leased for a small sum, and that the stone could be hauled to New York by a mule, which the architect was duly authorized to purchase. The mule was bought and did his work faithfully. After enough stone had been drawn to the grounds, the animal became useless, and McComb was authorized to sell him. Here comes in a charming touch. Honest John McComb found that he could sell the mule at an advance of five dollars over the first cost. The term "honest graft" had not yet been invented, and apparently McComb knew nothing of the thing itself; for on his books we read:

"Credited to the City:

"By sale of mule..... \$5.00."

From first to last it took ten years to build the Hall. The cost was about half a million dollars, and was done by days' work, ranging at that time from one dollar to a dollar and a half per diem.

So there the City Hall still stands as it has stood for almost a century, beautiful in the eyes of every lover of classical architecture, and an honor to the taste and probity of those who built it. It is unlikely that it will ever be torn down; and indeed, the great city which has now grown nearly a score of miles above the point where it was thought in 1811 that no one would ever live, could better afford to buy half a dozen blocks of nondescript architecture elsewhere than to touch a stone of this lovely building.

LARGEST CHECK YET HEARD FROM.

SOME months ago we published a facsimile of what we then believed to be the largest check ever drawn. It was for £5,338,650 or about twenty-five million dollars, and was given in payment for the De Buss mine in South Africa. Since that time we have been able to secure the accompanying facsimile of a check for a still larger amount. It cleared off the balance of the indemnity due to Japan from China at the end of the war of 1894—1895, when China was obliged to cede the island of Formosa, and to pay in addition an enormous sum of money.

In transferring the final payment, the Japanese government was represented by two secretaries to the Japanese embassy at London, while the Chinese government was represented by Sir Halliday Macartney, an Englishman in the Chinese service, and Mr. Lo, the Chinese secretary. Permission to reproduce the check in facsimile was granted by the Chinese Minister and by the Government of the Bank of England.

As will be seen it is drawn for the sum of 11,008,857 pounds, sixteen shillings, and nine pence, or, in our money, between fifty and fifty-five million dollars.

PAYABLE IN THE PUBLIC DRAWING OFFICE.	
London <i>May seven 2 1898.</i>	
To the Cashiers of the Bank of England	
Pay to His Excellency <i>The Japanese Minister</i> or to order	
Eleven Million, eight thousand eight hundred and	
fifty seven pounds, sixteen shillings and nine pence	
£11,008,857.16.9	
<i>[Signature]</i>	
C.D. 7/5	

THIS CHECK WAS GIVEN TO JAPAN IN PAYMENT OF CHINA'S WAR INDEMNITY.



IN THE HEART OF MANHATTAN

Manhattan Lights

BY EDWARD S. MARTIN

WHEN the twenty-four-hour-day man has been evolved and perfected he will pass his summers, maybe, near the north pole, where the sun is visible and radiant half the year at a time. For by that time, no doubt, the arctic end of the world will be easily accessible, and better equipped than now to furnish steady work or entertainment to an energetic person. But his winters at least he can spend in New York—a

city which darkness invades only to a limited extent, in which night as well as day has its full quota of shining hours, and human activities improve every one of them.

All American cities are comparatively well lighted nowadays. Even the quietest country villages have their rows of coal-oil lamps filled to last during the hours of darkness and to go out automatically for lack of kerosene some time about



ON RIVERSIDE DRIVE—GRANT'S TOMB IN THE BACKGROUND

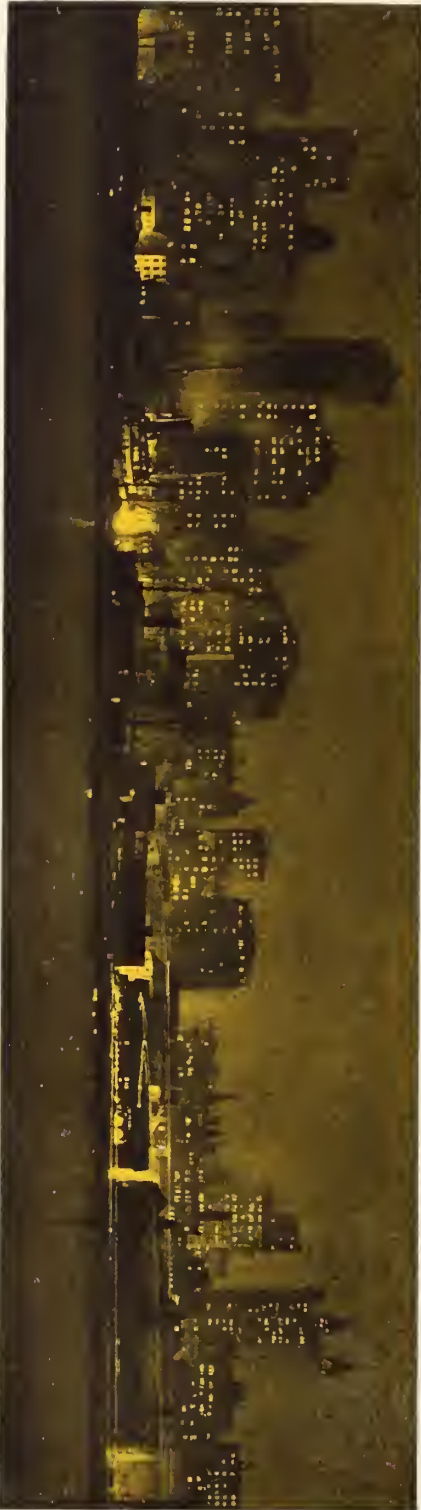
dawn. Protection as well as convenience demands light, and when something happens, like the San Francisco earthquake, to put a great city's lighting apparatus out of commission, there is immediate alarm for fear of crimes that marauders and thieves may be tempted to undertake under cover of the unaccustomed darkness. Travelling at night and looking out of the car window, one notices all the degrees of nocturnal effulgence with which the various grades of towns and cities provide themselves. Are-lights are the common sentinels of the larger towns and big suburban villages. Following them come the long stretches of street lights slanting out into the distance, and then the obstreperous combination of street lights, saloon lights, shop lights, and advertising signs joining in boisterous exuberance at the centre of evening traffic. Coming from the north or the east through Westchester County into New York, the last half-hour or more of the journey is through a succession

of suburban towns whose lights merge into a continuous illumination. Miles above the Harlem River the city blocks begin, and at the river itself spring out graceful rows and stretches of lights regularly spaced on the bridges and viaducts that span the river and cross the big gully that gashes the metropolitan end of the Bronx. By whatever route you reach or leave Manhattan Island in the evening, the river lights are beautiful. On the North River the spectacle varies according to the hour and the season, for the down-town lights in Manhattan are more numerous when the days are short and the tenants of the great office-buildings have to light up to finish their day's work. Across from the lower Jersey ferries late in the afternoon of a winter day glow and sparkle the great company of tall shafts grouped against the sky, each one pierced to the top with regular rows of shining windows. A memorable sight they make, those shafts and huge blocks of gleaming holes, reaching far above



FIREWORKS ON THE NIGHT OF THE OPENING OF THE NEW BRIDGE OVER THE EAST RIVER

A MEMORABLE SIGHT THEY MAKE FROM THE HUDSON—THOSE HUGE BLOCKS OF GLEAMING HOLES



their neighbors that come between them and the river. There is much in that spectacle to recompense a tired man for being a commuter, and nowhere else on earth is there the like of it.

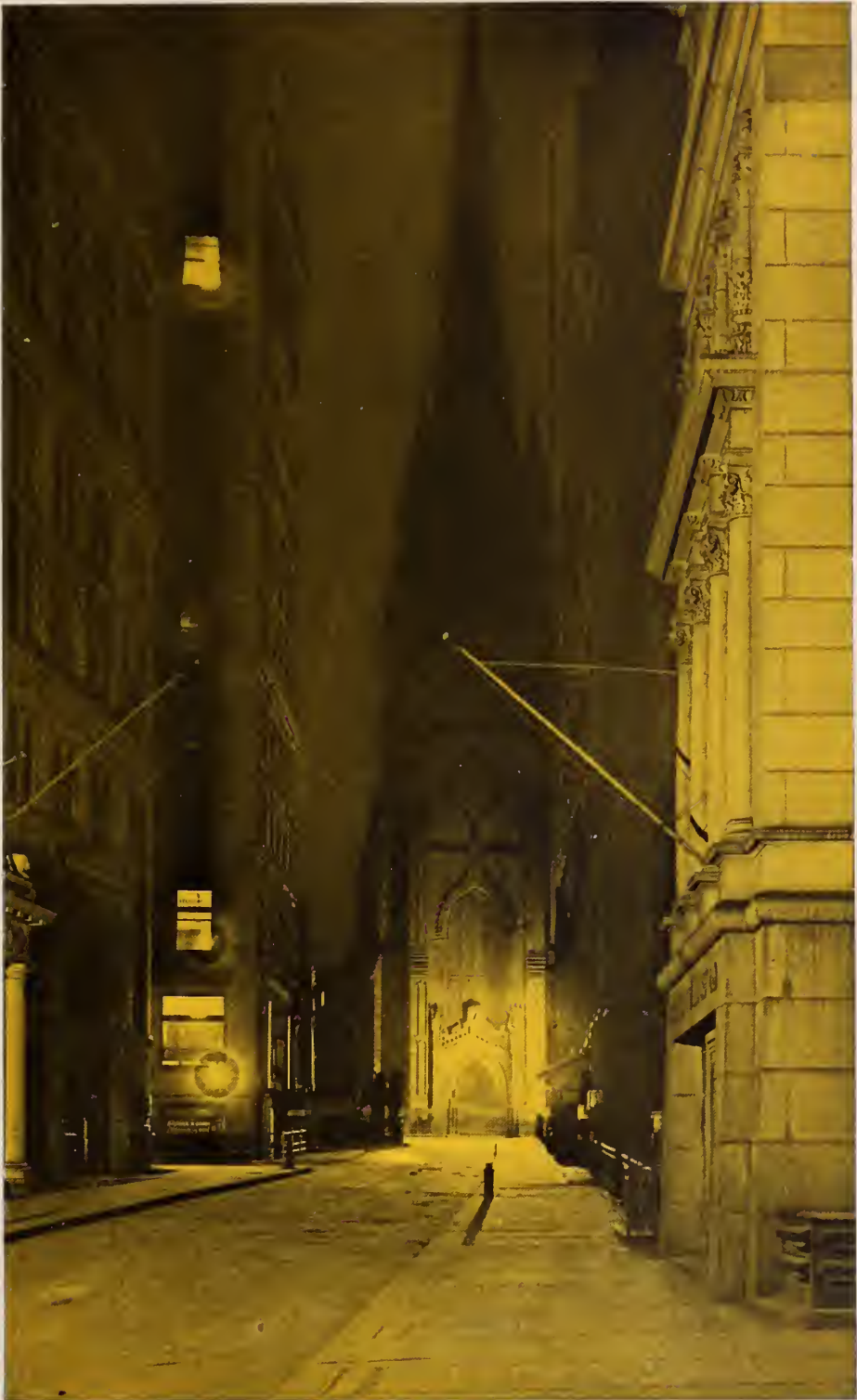
And besides the tall shafts and the intervening lower lights, and the glow of the streets that run to the river and border it, there are all the river lights—the ferry-boats, with their long rows of bright windows, hurrying on their various courses; the Sound steamers going out; other steamers coming in; all manner of lights more sober on all manner of shipping; the street glare and the ferry-house and wharf lights ashore; and higher up, here and there, the obtrusive and commercial, but none the less radiant, advertising signs.

The down-town office-building lights go out early—most of them—but up the river some of the tall up-town hotels continue, all the evening and in spite of curtained windows, to be lighthouses.

On the East River, besides the city lights and the river lights, are the high, curving bridges, very striking and beautiful, with their unobstructed outlines marked by the glow of the electric bulbs.

There is poetry in these river lights, bordered and framed by the dark shining water and reflected in it. Travellers and the winter commuters see the most of them. The hundreds of thousands of people who cross the bridges see something of them, and so may the crowds that throng the recreation piers on summer evenings. And the piers, like the bridges, are part of the spectacle. When Blackwells Island is turned into a park, as surely it will be some day, it will be, in its way, the most interesting park New York will have, and will be an admirable place wherefrom to watch the river lights. The night views from Corlears Hook Park, with both the bridges in sight, must be charming, and the far-down East-Siders doubtless profit by them; but for dwellers in mid-Manhattan, Corlears Hook is farther away than London and less often visited. When the twenty-four-hour man comes, no doubt he will go down there and see the night sights on the East River, for possibly he will have time to spare.

We sixteen-hour people, who have to go to bed for a little while even in New



LOOKING UP WALL STREET TO TRINITY CHURCH

York, travel, as a rule, on definite beats. If we live in New York, we see by daylight certain streets and by nightlight certain others; the same ones year after year and no others, except when some unwonted enterprise diverts us from our usual course. If we spend our summers, or part of them, in town, we may come to know the Claremont and the Hudson River lights as one looks north from there, and the lights on the Jersey shore opposite. Newspaper men, newsdealers, and all who are concerned with the publication or distribution of morning newspapers, know the City Hall Park, still the most important centre of newspaperdom and still one of the liveliest all-night centres in New York. Wall Street is dead at night, but it never is dark. It is always there, usually solitary except for policemen, but almost as carefully lighted as Fifth Avenue. Dark streets are not favored in the banking districts, and nowhere in New York is there a stronger contrast than Wall Street by day and Wall Street by night. Nobody sleeps there except janitors and their families. Nobody works there at night

except scrub-women, though in very busy times the clerks of the brokers and the bankers and the lawyers work until very late. Usually six o'clock finds Wall Street all but deserted, and at midnight the whole district is dead, and the lights that burn so faithfully are like so many candles burning to the better repose of Business, dead and laid out in a great narrow high-walled church.

Farther down-town, around the Battery and the ferry-houses and the Elevated Railway stations, there is activity all night long. Within easy walking distance in other directions are streets so crowded with humanity that there is no hour when all the people are abed. Any one who pictures in his mind the down-town residence and shopping streets as dismal or murky will gain a very interesting readjustment of his ideas whenever he goes to see them. The soberest and dimmest lighted streets in town are very respectable ones, like those that run east and west of Fifth Avenue, and are still uninvaded by business. They are quiet at all times, and at night are lighted just enough for protection and convenience.



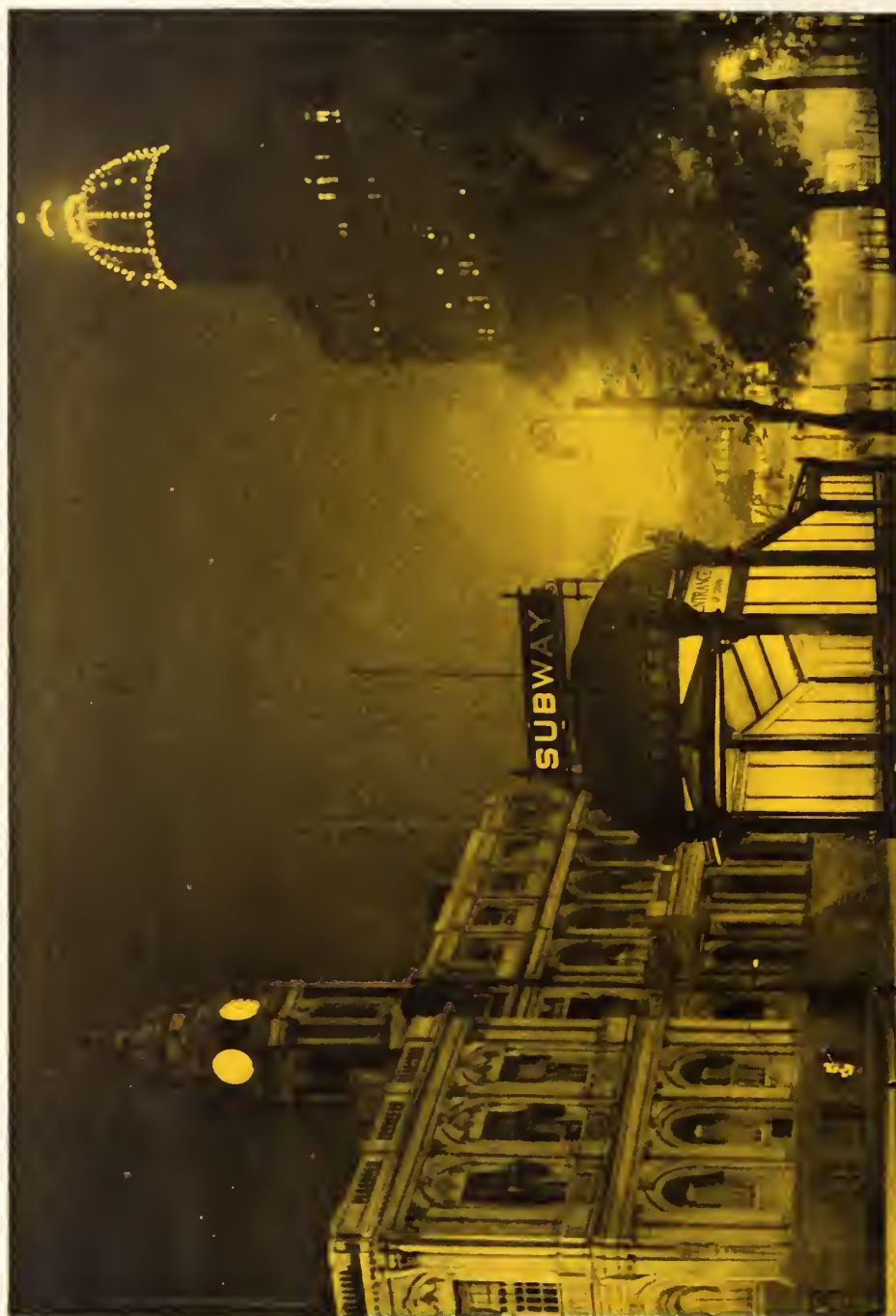
THE RECREATION PIERS ARE BRILLIANT SPOTS ALONG THE SHORE



THE SHERMAN STATUE AT THE ENTRANCE TO CENTRAL PARK

To go from one of them in the evening to one of the populous thoroughfares of the East Side is like coming out of a dusky wood into daylight. The East Side and every great tenement-house district spends its evenings, in good weather, as far as possible out-of-doors. That means in the street, and the streets are lighted according to the use that is made of them. The street lights are many and bright; the shops shine, the billiard-rooms glitter, the saloons blaze. Coming back from them to the blocks where richer people live, a whole house to every family, curtains closely drawn, and no shops or saloons, is a return to twilight from noonday.

But not all up-town New York is soberly lighted of an evening. Go to the pleasure centre, and you will find a nightly illumination which, they all tell us, no other city in the world can quite hold a candle to. That is what they say about Broadway between Twenty-seventh Street and Forty-sixth. In no other city, we are assured, is there so brilliant a stretch of artificial evening radiance. It is the theatre district, as every one knows, and also the before-and-after-theatre district, much frequented by persons who dine in restaurants, and by others, or the same ones, who have the curious habit of wanting supper after the play. Resident in New York and the ter-



ON THE LEFT THE VENERABLE CITY HALL STANDS DARK AMONG ITS BRILLIANT SURROUNDINGS

ritory immediately tributary to it is a very imposing number of people who go often to the theatres. Stopping in New York there are at all times somewhere between fifty and a hundred thousand people, a large proportion of whom go to the theatre in the evening. It is this enormous money-spending crowd that has caused the theatre district in New York to become a world-famous curiosity in electrical street illumination. All day long this part of Broadway is a crowded and busy district, full of shops and restaurants, and a great thoroughfare of a great city; but at eight o'clock of an evening in the theatre season it is deluged with a crowd which quickly disappears and is lost for three hours, when it surges out again, and fills the streets, the restaurants and lobster palaces, the carriages, the motor-cars, the cabs, the Subway, the Elevated stations, and the street-cars. A part of this crowd goes home immediately when the theatres let out; part of it disperses to various hotels and restaurants on Fifth Avenue or the cross-town streets, and part of it clings to Broadway, and eats and drinks in the light of its radiance. Wherever this up-town theatre crowd pauses, there the lights are bright and the streets are lively until after midnight. It is to catch the eyes of this evening crowd that the theatre section of Broadway has been so bejewelled with all manner of electrical contrivance. Advertisement is the motive. The result is somewhat blinding, but it is undoubtedly interesting, and, softened by due distance, it stirs the imagination and becomes even beautiful.

The most dazzling part of this show is still between Thirty-fourth and Forty-sixth streets, but the centre of greatest radiance is moving up-town, and Longacre Square is on the point of being the shiningest place in Manhattan. There, besides a theatre or two and some restaurants with profuse electrical embellishments, one sees to best advantage the pretty outside electric-light decoration of two great new hotels. Up Broadway is the distant glitter of the Columbus Circle; down Broadway, bordered by high buildings, is the blazing chasm of the theatre district. Out spring the cross streets on either side with their lights.

Up and down speed automobiles with great glaring eyes, and here and there, a little way back, where a vacant roof invites, flame advertisements in white and colored lights, not especially edifying as to the wares they cry, but beautiful in their brightness, as well as, in some cases, in their color and design.

Up at the Columbus Circle there is another light centre, and looking from there, farther up Broadway, you see other centres still, and note the crimson letters flaming on the walls of theatre and hotel. All over Manhattan Island there are such light centres, all more or less party-colored and brilliant, and garish though they may be, all more or less beautiful.

For light itself is beautiful, and though indoors it is easy to have too much of it, out-of-doors it is hard to misuse it so extravagantly that it will not still please the eye. The long rows of white street lights—incandescent gas-lights and arc-lights tempered by ground-glass shades—are pretty as they stretch away; the orange globes of intense light that hang by the theatre doors and the colors of the signs and names and emblems are all pretty. But most beautiful and most stirring to the spirit are the lights to which distance lends its enchainments—the river lights, and the shore lights seen from the rivers, the bridge lights, the tall shafts of buildings with windows all aglow. The show in New York is provided every night and with profuse prodigality; the trouble is to get the perspective.

And, after all, that is a prevailing difficulty about life itself on the island of Manhattan. The show there is a lavish show in a thousand particulars, but the perspective is somewhat to seek. The people who see the Manhattan lights in which there is the greatest charm and which most inspire the mind that contemplates them are not those of the surging crowd in the theatre district, but of the army of travellers and late commuters who cross the river to go home. A degree of detachment, it seems, and of contemplative distance is favorable to full appreciation of Manhattan. Its lights are like its noises—stunning when too near, but soothing and inspiring from afar.

New York—City of Romance

BY HARRISON RHODES

NEW YORK—port of the sea—is, for most of us Americans, at least the gateway of Romance. Down the gay dancing waters of her incomparable bay, under her high, pale, clear sky, each day great ships bear thousands of sentimental pilgrims to an older, lovelier world. New York tosses her buildings skyward in an indifferent good-by; we speak something of the marvellous progress of steel construction, something more of the day's Wall Street news, and then fix our eyes on Romance across the tossing waves of the North Atlantic. And yet, to make romantic and transatlantic synonyms is to be lazy, blind, and stupid.

Romance is of course still, broadly speaking, a foreign commodity. It is staple there; it is organized, accessible, and well advertised. You choose your brand, and purchasing it, you settle yourself to consume and enjoy it. From the Pincian Hill you watch the sun set behind St. Peter's. Along leafy English lanes you brush the dew from the hawthorn. Or in France you see the white road rise and fall beneath your rushing motor, while across the wheat fields come into sight the gray spires of some great Gothic church.

All such experience is lovely; nothing is more to the credit of our nation than that we know its value. But here at home, as our great town grows toward maturity, New York is coming to have a character, a tone of its own, to be one of the world's capitals, and unlike any other. Unperceived by most of us a faint bloom creeps over it, there ventures forth a strange new beauty which exists by none of the old rules, but will soon insist on fresh ones revised to include it.

Beauty, labelled and docketed as such, three-starred in the red guide-book, need lose for us nothing of its old worth. He is the poorer man for that who cannot stand in the Florentine sunlight by the Cathedral's side, rapt in admiration be-

fore Giotto's Campanile. But he is also so much the richer who can get something of the same glow when, from the Staten Island ferry-boat on a quiet Sunday evening, he sees the flaming Singer Tower rise above the monstrous heaped-up black of deserted office-buildings. Here is something as romantic—that is, as bewildering, as lovely, as incredible.

Perhaps as quick and easy a definition of romance as is possible would be that it is the thing which is incredible, which seems so remote from ordinary everyday human conditions that only by a sudden effort of the imagination can we adjust ourselves to it. We all know how the sight of some old building can send fancy scampering back across the centuries. Such moments our city of New York can provide when she chooses—but what no city through the whole world's history has ever offered as does New York to the bewildered stranger is the Romance of the Future.

Daily the town is torn down and rebuilt before our very eyes. That restless, imaginative, modern genius of invention leaps so far ahead of the average power of seeing, that New York is forever a fantastic thing, the miraculous product of a single night. While our necks are lame from trying to see the top of the Flatiron Building, lo! the white tower of the Metropolitan Life pierces the sky, and the frightened Flatiron shrinks to the size of a thatched cabin, no longer able to surprise or impress us.

The caldron boils and its seething surface petrifies into dreams. Stand in Long-Acre Square as a winter night falls in flying snow, see the cream-colored sentinel that guards the crossing of Broadway and Forty-second Street soar into dim cloudy upper distances where you can already almost hear the airships scream their warnings and see them flap strange wings; watch the electric crests of huge hotels flash out,



THE THINGS THAT TOWER
Etching by Joseph Pennell

He has noticed Trinity, standing with the real air of a cathedral church at the head of Wall Street—though it is probable he has never seen the curious monument to an early bishop in a small chapel to the right of the altar, nor known that there was precious King George and Queen Anne silver in the treasury, as

also a chalice covered richly with the jewels of a pious lady who was once a parishioner.

St. John's, for a long time forgotten, has recently come into some prominence, and some hundreds of thousands who had never heard of Varick Street have seen the beautiful old church there.

From an architectural point of view it is the best we have, with its noble brown-stone porch, its light and elegant spire, its simple, well-proportioned interior, and the two admirable brick houses that flank it. And for many years it had the gently pathetic air of decay which was, for the sentimental sightseer, an added charm. Slum children played around the columns of the portico or sat on the steps in the sun. And in the vestry a pleasant, rosy-checked young vicar, who had fallen genuinely in love with his neglected church, would show you old engravings of the days when Hudson Square was a pretty park surrounded by the houses of the town's aristocracy, and on a summer's day you could stand at the altar and look through the open church door across the greensward and down a short street to the blue river beyond.

Of the old houses around Hudson

Square there are three left, abandoned to utter squalor and dilapidation by their somewhat sinister-looking tenants. Only the richly wrought iron railings and ornamental newel-posts by the battered door-steps show their original character. The centre of the square is occupied by the freight depot of a railroad, for which purpose the muddle-headed inhabitants sold their park, even while they foolishly planned still to live on in their family mansions. The building itself is a sombre, heavy, brick structure, not notable except for the amazing sculptural ornaments of its western pediment. Here indeed is art in the making, tho clumsy efforts of that earlier day. The workmanship is of the ordinary stone-cutter, who, having finished the depot, put in a few hours' overtime at sculpture to complete the job. If you can step around the corner in just the right mood,

the elder Vander'Lilt dispensing the blessings of transportation to a grateful country will seem somehow naively humorous. Crouched submissively at his right is Columbia, at his left Neptune. The freight depot stands proudly in the middle, surrounded by the various products of our fields and factories. From it a pleasant little train emerges, hauled by an engino with a comic smoke-stack. From a distance, through a deliciously wooded country, presumably Eleventh Avenue at about Fourteenth Street, another train approaches. And, a'ove all, the elder Vanderbilt, in a fine fur coat and with a hand benignantly extended, surveys the scene. The master-



NEW YORK FROM WEEHAWKEN



A NEW CITY HAS BEEN SET UPON A HILL

piece is dated 1868, and, in a town where we have so little architectural sculpture, deserves attention.

Already 1868 has a flavor. And the 40's and 50's in this quick-moving town of ours are genuinely romantic. They are fading quickly from us; to all intents and purposes they are now as remote as the eighteenth century. Yet we have, especially in the arts, so long kept our eyes fixed on the colonial period that the early and middle nineteenth century will pass before we have time to recapture and enjoy their charm. If the present article had any one special object, it would be to urge that the time of *Godey's Lady's Book*, and hoop-skirts and fashion in Second Avenue, is a fresh untouched field of romance. Let us worship a heroine of Manhattan by all means. But let her be not a belle of the Revolutionary days, but rather Miss Flora McFlimsey of Madison Square, and of the world of fashion of that recent, yet strangely remote, strangely unrecognized day.

In any city the progress of the fashionable world leaves a trail of romance behind it, splendid houses now abandoned. Washington Square and Fifth Avenue and its adjoining streets south of Fourteenth, aside from the dignity and beauty of their buildings—it would be hard anywhere to match the north side of the square—have already the charm that comes from crowding memories, and from the sureness that the quarter can-

not much longer resist the invading tide of shops and slums. But the greater romantic flavor is found in the districts where the tide has already receded, leaving only a few obstinate families to carry on in those spacious, distinguished old red-brick houses the tradition of early New York luxury.

At one time Stuyvesant Square and Second Avenue were established as the centre of what was probably termed the "upper ten" or the "*crème de la crème*" of New York society. But the family which controlled most of the land of the region held it at high, almost prohibitive prices. At last adventurous and poor young couples began to venture into the social wilderness of Fifth Avenue, and before the proud Knickerbocker landlords realized it the current had turned.

Below the square there are several appealing suggestions of those earlier days. By St. Mark's, so pleasantly and irregularly placed on its green plat, is a spacious old house only recently deserted by its owners. And farther south in a region of crowded flat-buildings and noisy German and Hungarian cafés are the two remotest outposts of that bygone world, houses where behind polished plate glass and beyond immaculate curtains you may perhaps catch glimpses in the afternoon of old ladies in snow-white caps, and may imagine it possible that they still dine at five-thirty or six, and have good claret and madeira in the cellar. Even the older gentlemen in the up-town clubs

only remember that when they were young blades they began their New-Year's calls in the region of St. Mark's Place, and that they have rarely been there since. Most of us Americans are gipsies and vagabonds in our own towns; it is like a fairy-tale that we have among us people who even now continue to live in old houses just because their fathers did.

Here, too, south of Fourteenth Street, were until lately those two strangely desolate and forgotten cemeteries where, hidden behind swarming tenements, were the graves of so many of those who had helped to make New York in an earlier day. For a long time musty charters and old endowments preserved these, but now at last they go. Here and there over the town the law keeps poor little fragments of burying-grounds. One you may see, as you stroll, between Fifth and Sixth avenues near Washington Square.

And there is a curious legend, difficult if not impossible to authenticate now, of one small burying-ground caught in the very middle of a huge Sixth Avenue department store. It could not legally be disturbed, it was said, but access to it was denied, and there was but one window on one turn of a staircase from which could be seen this pathetic, battered, yet gallant reminder of those who slept there.

But to come back to our itinerary:

South of Stuyvesant Square the outer signs of early architectural dignity have for the most part been swept away. Ugly cornices and door-casings, sprawling iron fire-escapes, crudely painted fronts, seem to indicate the usual, fairly prosperous East Side tenements. But in many cases this unalluring exterior only masks an old house. There is, for example, a little German café, just around the corner from

the avenue, where you may drink your fragrant cup of coffee and munch your spice-cake in as beautiful a drawing-room as you can find in London or New York to-day. The tables and chairs are cheap, it is true, and the floor sanded. But the proportions of the apartment remain, the fine old woodwork—cream picked out in gold—with the lotus-flower capital so characteristic of the New York of that day, the solid old mahogany doors still shining brightly, and the white marble chimneypiece (probably imported from Italy, as they did then) with graceful nymphs on either side. It is a pleasant nook; may it not be contended that it also is faintly fragrant of



AMONG THE SKY-SCRAPERS



THE QUAKER SCHOOL IN STUYVESANT SQUARE

romance—as well as of the cinnamon in excellent buns?

In Stuyvesant Square, St. George's has already the air of antiquity, and the Quaker church and school—red brick and white, and dating only to the forties—have the serenity and peace of buildings in a cathedral close. There should be rooks wheeling round the trees near by and a bishop in shorts crossing the green.

In this quarter it was that Thackeray had friends when he visited New York. And there still lives in the square a lady with whom he used to find it pleasant to drink tea. She is a faithful and loyal daughter of Manhattan; she deserts it neither winter nor summer. And it is

the privilege of the inhabitants of that delightful region to see her daily, at an hour that scarcely varies by a minute, go forth and take the air in a wonderful high-swung old barouche—a privilege at once distinguished and romantic; for the old lady, erect and charming still, carries one back with her own and her family's traditions to the earliest and best days of the colonial period.

The Academy of Music with its curious fading mid-century architecture, and its already half-forgotten traditions of great days, is a perpetual delight to the sentimental traveller in Manhattan. While it stands one can never forget the days when fashion dwelt in Fourteenth Street,

And farther west the thoroughfare can still show some solid mansions of the Dutch families.

Gramercy Park, Irving Place, and lower Lexington Avenue have all the *cachet* of an aristocratic respectability which is passing. And the process goes

ther from New York than the remotest Long Island or New Jersey suburb, and Greenwich Village, never the home of fashion, but rather of a prosperous shop-keeping *bourgeoisie*. In the latter are now clean quiet streets that might almost be those of some English provincial

town. In fact, the whole quarter keeps a British flavor. Even in the Italian district you may find hints, in the names of public institutions, that once they called this Richmond Hill.

Greenwich has also its small surprises, its village grandiloquence. In a peaceful side street, in a pretty red-brick house of a modest size which unfortunately has gone out of fashion in New York, you will find the Catholic University of America! And some night at the opera you may catch in the boxes a glimpse of the admirable lady, in a quaint cap, who founded it. She herself with her papal title modestly employed, and her air of the early New York, would perhaps not resent being called a pleasantly



ST. MARK'S

on. Is it all imagination to think that now, when the rush is to the East Seventies, Eighties, and Nineties, there has crept over the side streets off Fifth Avenue below Thirty-fourth something of this same autumnal air? Are the houses not already a little quaint? The main current has swept by, but is it not pleasant, and a little romantic in the backwater?

There are special regions like Chelsea, which gathers around the quadrangle of the Episcopal Theological Seminary with something of the academic pride of a small college town, and is obviously far-

ther from New York than the remotest Long Island or New Jersey suburb, and Greenwich Village, never the home of fashion, but rather of a prosperous shop-keeping *bourgeoisie*. In the latter are now clean quiet streets that might almost be those of some English provincial

town. In fact, the whole quarter keeps a British flavor. Even in the Italian district you may find hints, in the names of public institutions, that once they called this Richmond Hill. Greenwich has also its small surprises, its village grandiloquence. In a peaceful side street, in a pretty red-brick house of a modest size which unfortunately has gone out of fashion in New York, you will find the Catholic University of America! And some night at the opera you may catch in the boxes a glimpse of the admirable lady, in a quaint cap, who founded it. She herself with her papal title modestly employed, and her air of the early New York, would perhaps not resent being called a pleasantly romantic figure in the latter-day town. Proximity to the West Twenty-third Street ferries has made fairly familiar the curious houses on that street and Twenty-fourth between Ninth and Tenth avenues. The more pretentious houses on the more important thoroughfare, with their green dooryards, achieve a kind of symmetry and real dignity. And the tiny cottages back of them have an air of discreet gayety, with their small porches over-elaborate with lattices and iron-work in intricate designs that almost suggest Spain or the Orient.

So far our sentimental sightseer has only found the romance which is on the usual and daily path of each one of his readers. Undiscovered New York there is as well; even in that great uncouth crowded East Side there are pleasant promenades for any one who will carry there the holiday mood and the appreciative eye which he habitually takes abroad.

A recommended itinerary would perhaps begin under the Elevated at Chatham Square, and go first by that strange little fragment of the old Jewish burying-ground, which once lay "outside the walls," and is now forever disturbed by the clatter of trains passing over it. The saunterer would then plunge into the network of streets which extend toward the East River, into the atmosphere of the sea, and of days when there were American sailors and American clipper-ships.

It is the names of the churches of the region which more than anything else sound romantically in the ear, and would lure the most wearied sightseer to their side. Here are the Mariner's Church, the Mariner's Temple, and the Presbyterian Church of the Sea and of the Land. Quaint pleasant names, the last one with a kind of haunting loveliness in the very sound of the words which it would be hard to match the world over. The Temple is of sober brownstone, and has two great pillars and a cupola. The Mariner's Church is of pale-cream brick, with broad windows of tiny panes, and a ridiculous crenelated top. The Church of the Sea and of the Land, which boasts five trees on its south side, is in a thin Gothic style,

built of gray rubble. This rubble seems a favorite material in the region. There is a synagogue built of it, as is the little Church of All Saints in Henry Street, which has a homely rectory and one desolate tree in the best manner of a London city church. All these were built



CHAPEL OF THE THEOLOGICAL SEMINARY—CHELSEA

for the salvation and the care of the souls of our mariners. But since mariners are not frequent now, wisely the churches have managed accommodation for the small Protestant congregations of the various nationalities which swarm in the region. In the Mariner's Temple, for example, there are services each Sunday in English, Italian, German, Russian, and Danish. Here in this part of the town we are indeed at the very foot of the Tower of Babel. There is one open-air pulpit where in a single evening you may hear preaching in six languages.



A DOORWAY IN GRAMERCY PARK

The very spreading of the gospel takes on in this town of ours strange, grotesque, and romantic forms. You may have heard it in great churches, you may have listened to it on the greensward of Hyde Park in London. Now stand an evening at Fourteenth Street and Third Avenue, watch the flashing lights of vaudeville down the street, be deafened by the clang of surface cars and the rumble of Elevated trains above, and hear the gospel from some pale missionary standing in the gutter there. The message flashes intermittently in the thunderous night as the careless, indifferent town rushes by, the preacher cracking his throat to rise above the horrid tumult in which he has planted himself.

But we were lounging on the East Side. There are beautiful old houses there, too, in Henry and Rutgers streets, with elaborate doorways and fine iron railings. But the characteristic dwellings are less pretentious. The main street, and the most interesting, of this region is East Broadway, a long, wide thoroughfare to the easternmost point of Manhattan, a far and unknown region to most of us. The street has no need to be apologetic; it has not precisely gone to seed. Its houses were never fashionable, only comfortable; and comfortable on a somewhat reduced scale many of them evidently are still. In the down-town, west-end part, where are incidentally the best architecture and the best twisted-iron rails, there is the usual

invasion of business in a small, rather squalid way. But up-town—that is, in its eastern end—it is a placid, sleepy, residential street, stopping at a tiny green park. It begins near Chatham Square, but one would swear that it ended somewhere far outside New York. It is in its own mild way a strange, undreamt-of corner. A large part of the mystery of great towns for their lover lies in the endless riddle of just who it may be makes homes behind all the front doors by which he passes. It is easy to imagine who inhabits Fifth Avenue or the flats of Harlem. But who lives in the quiet streets of Greenwich, or in East Broadway?

The water-front of New York is to the eye not notably picturesque. Steamcraft have driven away much of the outward romance. Yet there by the East River they still fit out revolutions for South America and all the Indies, and there, by the waterside, gentlemen adventurers are forever swaggering and plotting. There they believe in hidden treasures and forlorn hopes.

One way and another, through the length and breadth of the town, the sentimental pilgrim will be given good quarters of an hour. While others may stare at the silly fish in the Aquarium, he will see in his mind's eye the round auditorium, the four slender columns by the stage blooming into quaint lily-shaped

capitals, and Jenny Lind kissing her hand to some thousands of her new-found admirers.

Fordham will be for him full of memories, and all through the Bronx he will pause before old wooden farmhouses and country-seats which look wistful and bewildered by these strange new streets that sprawl over everything. In Central Park he will stop idly to note how the style of the fountains, and of the great flight of steps that descends to the lake from the Mall, has grown oddly out of the mode, and to wonder how soon, in this quick-moving century, it will have the charm of quaintness. He will wander through the Park delighting in the queer old-fashioned people who still drive horses; by day watching children play and, toward the northern end, groups of old men who sit in the sun and discuss philosophy; by night regarding lovers come to walk, and also seeing queer derelicts and curious sinister wanderers prowl into the Park's obscurity from the flaring lights of the Plaza and the Circle.

But why should one make out his itinerary, write, star, and double-star his guide-book for him? All that need be done for the sentimental sightseer is to try to hint that New York, now one of the world's great capitals, waits only to be wooed. Few have as yet learned to know her as she can be, mysterious and lovely, true city of romance.

Getting the Traffic Through

BY EDWARD HUNGERFORD

THE railroad is a monster—his feet are dipped into the navigable seas and his many arms reach into the uplands. His fingers clutch the treasures of the hills—coal, iron, timber—all the wealth of Mother Earth. His busy hands touch the broad prairies—corn, wheat, fruits—the yearly produce of the land. With ceaseless activity he brings the raw products that they may be made into the finished. He centralizes industry. He fills the ships that sail the seas. He brings the remote town in quick touch with the busy city. He stimulates life. He makes life.

His arms stretch through the towns and over the land. His steel muscles reach across great rivers and deep valleys, his tireless hands have long since burrowed their way through God's eternal hills. He is here, there, everywhere. His great life is part and parcel of the great life of the nation.

He reaches an arm into an unknown country and it is known! Great tracts of land that were untraversed become farms, hillsides yield up their mineral treasure, a busy town springs into life where there was no habitation of man a little time before, the town becomes the city, Commerce is born. The railroad bids death and stagnation begone. It creates. It reaches forth with its life, and life is born.

The railroad is life itself!

My train departed from no gay terminal. Instead I found my way to a railroad yard that stretched its length along the waterside of the city. It was three o'clock in the morning, and the city was as quiet as ever a big city becomes. The clocks in its towers were solemnly speaking the triple hour, and the only noise that came from its streets was the occasional rumble of carriage-folk returning from an evening's gayety, or the many wagons bringing the city's food and

drink for the morrow. The electric lights blinked brightly in long vistas. The houses, the hotels, and the apartments were mere black bulks. Only here and there a single lighted window showed that a great city never sleeps.

My train had no fanfare to precede its departure. There was no lighted bulletin to denote it, no important and liveried functionary to demand my right to board, none of the delightfully human business of farewells about its entrances. Instead a huge hulk of a locomotive, a hundred tons in weight upon the rail, sidled up to a string of freight cars, hidden between other and almost entirely similar strings of freight cars, there were shouted orders, waving of distant lanterns, and we were off—off with mighty creakings and jerkings. We were no longer a mere string of cars in the water-side yard, we were PK-5, if you please, a preference freight bound across the continent, and a train entitled to more than an ordinary measure of respect.

Collins, the conductor for the first part of PK-5's run, looked at me suspiciously, at my orders wonderingly. He had a natural suspicion of strangers. Passengers are not wanted on freight trains. When they come they receive no cordial welcome. The railroad hires detectives to ferret them out from under trucks and the like, and the men along the line regard them as their natural enemies. They told of one man over on the Middle Division who had a record for throwing tramps off coal trains so that they would strike against telegraph poles every time—quite a feat, coming down a mountainside at forty miles an hour. In justice to the brakeman it might be added that the probabilities are that if he had not been quick in his way, the tramps would have done the throwing in most cases. The whole record of the freight service is a record of unending



WHERE THE RAILROAD MEETS THE SEA

guerrilla warfare between the railroad men and the tramps.

But my credentials were unimpeachable. I could see that from Collins' face as he held his lantern over them—he would not even let me into his caboose until his own mind was set. After that there was barely time to jump. The jerkings had begun, and PK-5 had been thrilled by her great engine into animation.

"You won't find our haek any fancy place," said he. "We've had it nine years now, and it seems kind of home-like to us after all that time."

The "we" consisted of Collins and his rear brakeman. The forward brakeman, who was held responsible for the front half of the train, had his headquarters in the cab of the locomotive. The brakemen were supposed to be out upon the tops of the cars when we passed stations, and also on the steep mountain grades, where entire reliance is not placed upon the air-brakes. This is jolly business in summer, but there are times in winter when it is something less—when wind and sleet and cold combine to make the life a difficult thing.

At such times it was comfort for the rear man to get back into the "haek." It *was* a home-like place, snugly warmed by a red-hot stove fixed in the corner,

and lined with bunks made into beds, Pullman fashion; only never was there a Pullman that gave you less sense of the impressive and a greater sense of a snug cabin. Squarely placed in its centre was a sort of wooden pyramid or mountain, and the steps up this led to the lookout where by day the long snaky train and the sweep of the surrounding country were to be seen.

Collins offered an apology for his mountain. "Kind of old-fashioned, that," he stammered out. "The las' time I had the cabin in to the shops for overhaulin' they offered to take it out and put in the ladders, but I says 'no,' and this is why":

One by one he lifted its steps. It was a mountain built of a set of lockers, a regular treasure-house of railroad necessities. There were all sorts of ropes and jacks and wrenches, extra parts, against every emergency. There was a food-closet and another locker filled with neat stacks of stationery.

"They give us more forms to fill out now than the Superintendent's office used to get twenty years ago," he growled. "I spend more than half my time at that desk."

The clerical work on PK-5 was considerable. Collins had to keep all the way-bills of his train—sixty cars, more

than a quarter of a million dollars in merchandise—and if he made a serious error it was apt to cost him his job, despite a good long term of service. He wrote a neat hand—he was a quiet, thoughtful man, after the way of railroad men—and his records, like his caboose, were kept in shipshape fashion. Like every other one of his kind, he was a careful student of the ethics and practices of railroad management and operation. He had his own ideas on each of these, and when you got to them they were good ideas. Of such as he railroad executives are made in America every year.

It took a long time before we were clear of the terminal yard, apparently an endless thing; a shadowy tangle of rails and switches underneath, overhead an ever-changing kaleidoscope of colored signal lamps. Off at the left were the

docks and the elevators where the railroad giant really came into close touch with the wanderers of the sea, and where under gleaming, hissing arcs the transfer of freight from cars to ships went forward day and night. At the right the city rose above the din and confusion of the railroad yard. A squat round-house, like a giant crusher, sent its smoke and gases up under the windows of many-storied apartments. The railroad hung tenaciously to every inch of its water-front yard. The town crowded hard against it.

When we were clear of the city as I had known it, there were still more yards, and the point where we were to be admitted to the main line. We halted for a moment, a procedure of endless bumps and reports, the rumbling of the car-couplings coming along the train like gun-echoes repeating in a deep cañon. I heard those rumblings, should have heard the cautionary whistlings of our locomotive, did not, and was nearly pitched through the lookout window when the air-shock reached the caboose. That struck Collins' sense of the ridiculous.

"You want to keep yer-self braced," was his tardy advice. He was showing me a badly bruised eye that all the time I had accredited to some unruly train-hand. "I went all the way through that window las' week. They ain't got the preference freights runnin' as slick as the limited yet."

A passenger train, her sleeping-cars black and only showing dim lights in monitors and at vestibules, swept proudly past us. When its red lights at the rear of the last sleeper grew faint, friendly signals were shown us, our engineer tooted his acknowledgment quite gayly, and we were off up the main line. My watch showed me that we had lost some twenty-five minutes there at the outer gate of the city.



AN OLD FREIGHTER

A little later I found that we were due to lose time all the way up the run. There seemed to be no end of things that might halt P.K.-5, and I asked Collins how they ever stuck to the schedule. He laughed again. It seemed to be tonic to him to have a passenger in his tidy caboose.

"Schedule?" he repeated. "It's a joke. They give us a time to get out on, an' then one of them bright office-boys gets a figure out of his head an' puts it down for an arrivin' time. He never hits on it, never expects to. So more an' more they're gettin' to move this freight on special orders. They can regulate it better then, accordin' to volume. Mos' of the men carries the schedule of the fas' freights in their domes. The coarse tonnage stuff don't even get special orders. When there is enough of it to

make a train, they get an engine out o' the roundhouse, give the train the engine number, and start off. In big times they may do that every fifteen minutes; slack times, they may be lucky if they do it twice in twenty-four hours. Railroad traffic, along the freight end, follows business conditions mighty close."

That was a long speech for Collins, and he silently set to work making supper, or breakfast—call it what you will—on the stove in the corner of the caboose.

It was broad daylight when we halted at a junction across a frozen river from a city. The city was set upon a steep hillside, and its houses rose from the



THE BRAKEMAN'S IS A JOLLY BUSINESS IN SUMMER

river in even terraces. At the top a great domed structure, the State House, crowned it. It was a still, winter's morning, and the smoke from all the chimney-pots extended straight heavenward. We waited patiently upon a long siding until everything else had been moved—through fast expresses, heavily laden with opulent-looking Pullmans, jerky little suburban trains, long "draughts" of empty coaches being drawn by consequential passenger switch-engines in and out of the train-shed of the passenger station. Finally a certain semaphore blade dropped, and we began pulling around a sharp curve across the river, clear of the station with its confusion of business, through and almost past the

city to still another yard. That was our first resting-place, the ending-point of the initial division of the trip. Before PK-5 should resume its trip, the train would be torn apart and set together anew, there would be a new engine and crew to haul it, another caboose and conductor swung on behind.

Collins introduced me to Sam Jones, the yard-master there.

"If you want types, size up Jones," said he. "He's a type of railroad man; the type that are getting frozen out now, thank God!"

Jones was the autocrat of that busy yard. In dull times it was busy and he without a moment to spare. When the factory wheels were turning all night and the traffic flowing through that flood-gate of railroad activity Jones was superman. Night, day—day, night, Jones was the autocrat. The dust grew thick upon his books, his desk lid was not raised for a week at a time, but he was out in his domain, urging, cursing, shoving, keeping the switching crews hard at it, taking a hand himself in clearing the yard—Jones was something of a railroad executive and very little human.

Just now the yard was running at low tide, there were plenty of men handy, and engines "white-leaded" and standing in the roundhouse waiting for good times once more, and Jones was half human. He began telling me something of the work that was done within his domain.

"Ef it was only changin' engines an' crews it wouldn't be so bad a trick," he told me, "but, say—that transfer house!"

Now here was a phase of railroad energy. I found my way to a gaunt freight house, to whose doors no truck had ever backed, and which was hemmed in by many rows of sidings and of sheds. In this structure one of the busiest functions of the whole transportation business went forth by day and by night.

You ship a box—sixty pounds to a hundred pounds—from Wilkesbarre, Pennsylvania, to Berlin, Wisconsin. Here comes another box from Watertown, New York, to Norfolk, Virginia. A third is bound from Easthampton, Massachusetts, to Chillicothe, Ohio; a fourth from Terra Haute, Indiana, to Plainfield, New Jersey, and so on, *ad in-*

finitum. You can readily see how in such cases the railroads have a problem in freight that closely approximates that of the government mail service. Ten thousand currents and cross-currents of merchandise rising here and there and everywhere, and crossing and recrossing on their way to destination, make a puzzle that does not cease when the rate-sheet experts have finished their difficult work.

If all this freight might be expressed in even multiples of cars the problem would not be quite so appalling. But your box is a hundred pounds weight—less, perhaps. From its destination it goes with other boxes in a car to the nearest transfer point. It is known to the traffic men as "LCL," which is readily translated "less than car-load lot." At the transfer house the car in which it is placed is drilled quickly into an in-freight track, seals are broken, doors opened, and reassorting begins. The transfer house is roomy and systematic. If it were anything less it would resemble chaos.

But the chief freight points of that particular system and its connecting points have regular stands, upon which nightly are placed cars bound for these points. Each city—in the case of a large city each freight house—each transfer point, has a number, and its through car stands opposite that number. When the in-freight arrives and is unloaded piece by piece, a checker, who is nothing less than an animated guide-book, gives each its proper number, and it is promptly trucked off to the waiting car. It is mail-sorting on a Titanic scale.

Nor is this an absolute order. Certain towns demand an occasional through car from time to time, and a car must be assigned number and place at the transfer house against such emergencies. Sometimes there is enough freight to more than fill the car allotted to any given point, and then one of Jones' switching crews must drill that out and find another empty to replace it. Beyond that, Jones' superiors are all the time demanding that he show judgment in picking the cars to be filled.

When a freight car gets off the system to which it belongs it collects forfeits from the other lines over which it passes



Drawn by Thornton Oakley

THE HUMP—WHERE HALF THE WORK OF SWITCH-ENGINES IS NOW DONE BY GRAVITY

if they do not expedite its passage, and this the railroaders know as "per diem." The great trick in operation is to keep "per diem" down, and so the "foreign" cars, so called, must be promptly returned to their home roads.

"We load out of the transfer house a through car over the Northwestern from Chicago every day," Jones explains. "It's up to me to have a Northwestern empty for that when I can. When I can't I do the best I can." He scratched his head. "Perhaps I'll use a Canadian Pacific, and so get her started along toward home. If not, something from the Sault, just as I am going to start that New Haven car over toward Connecticut to-night. If I was to send that New Haven out beyond Chicago there'd be trouble, and I've got to dig

out something empty from the Boston and Maine to take that stuff over to Lowell. Mos' generally, though, when we've got a turn of Western stuff, I've got my 'empty' tracks stuffed full o' them New England cars."

I mentioned something about the transfer house being a mighty good thing. Jones corrected me.

"It's a necessary evil," he said, "an' lots of times I wish that we didn't have it here."

He took a fresh chew of tobacco and started to explain. "See here. We got near a ear-load ef that fancy porcelain brick through from Haverstraw las' week, and that young whelp of a college boy that's hangin' round here learnin' the railroad business gets it into his noodle that it's somethin' awful, awful for that stuff to be goin' through to middle Ohio in a Maine Central box, an' 'LCL' at that. So out he dumps it into a system car right here an' now, and saves the road

about one dollar and fifty cents per diem. Of course we pays about one hundred and thirty-five dollars for damages to that brick in the transferrin'. But the boy's all right in the transfer house. If he was out on the engine he might blow up the boiler."

Jones was telling how judgment counts, how judgment is the thing in railroading. A few hours later a veteran engineer was complaining that he had no opportunity under the operating scheme of the railroad to use anything that even approached judgment.



SAM JONES

There came over me, as I sat in the caboose that evening, a wild desire to ride with the engineer in the cab. Planning to slip ahead along the half-mile or so of train at the first stop, I made known

my desire to our conductor over that part of the run.

"They'll be glad to see you," he told me. "You won't have any trouble gettin' there. It's a mild evenin'." He swung open the window of the lookout and called to his rear brakeman, "Jimmie, run along with this here party." Jimmie pulled me through the window of the lookout before I clearly realized the entire plan.

It was a slippery path over the roofs of sixty cars to the big engine that was pulling us, and the wind that swept in from the shores of the ice-bound lake, along which the tracks ran for many miles, snapped sharply over those car roofs. Jimmie hung on to his lantern with one hand, to his convoy with the other. Long miles over those slippery car roofs had taught him to regard it as no very serious business.

"This ain't nothin'," was his assurance. "It sometimes gets nasty when

we get down to zero an' a blizzard comes a-rippin' from off over the lake. Sometimes you have to get down an' crawl on all-fours. It wouldn't be much fun to be swept off the tops of those cars."

There was no disputing that; nor that the three lengthwise planks at the gable of the car roofs were not wide promenades. You jump from one to another to cross from car to car, and a man has got to have something of a gymnastic training, and some circus as well as railroad blood in his veins, to do it many times without dropping into one of the hideous dark abysses between them.

A hand out of the dark slapped me in the face. "Drop," said Jimmie, and fearing possibly that I might not obey, he pulled me flat down upon the car roof.

"That was a 'telltale'!" he explained, and before I could ask further we were in a short reach of tunnel, and I understood. We were whirled through that tunnel like a package in a tube, and if we had raised our arms we could have touched the flying roof of the bore. The smoke lay heavy in the place; it filled our eyes and nostrils.

"Not real nice," said Jimmie, cheerily. "But no danger in the holes, save now and then an icicle gets a crack at your mt. You see there ain't much use in arguin' the matter after that 'telltale' strikes you."

After that I came to have more respect for the "telltals," those long gallows-like strips of heavy fringe that warn "low bridge" to the forgetful trainman on top of the cars.

The engine was not clean and gayly trimmed like a passenger-hauler. She was big and she was overpoweringly dirty, but the fireman said that he did not care about that.

"They keep on jumpin' up the size of the fire-box on us," was his plaint, "an' I'm busy enough feedin' her old stum-mick 'thout cuttin' any other didoes roun' the machine."

"That's the trouble with him," laughed his cabmate. "He's out of the division shops an' afraid of hard work. He's the last one for me. I'd rather break in the little farm-boys to fire for me. I like to take hold of them when they come in here with the barnyard mud on their boots."



A HALT ON A SIDING



THE YARD-MASTER

To this the fireman said nothing, but pulled the chain out of his fire-box door and spread a shovelful of coal upon the raging blaze within. When we started from the terminal we held ten tons of soft coal in our rangy tender. At the far end of the division there would be less than a ton remaining. If you think it is an easy task to handle nine tons of coal, steadily, shovelful upon shovelful, five hours and a half, you are entitled to the experiment. Add to that the finding of a foothold upon a careening engine floor, and you have still more of an experiment. When we rocked a little more than usual round about one sharp curve, the shovelful of coal went flying out into the night between tender and caboose. That was a mighty joke. I asked the fireman if there was no danger that he might go with the coal.

"I always catch the guard-chain," he grinned at me.

There was less talking from the man with

his hand at the throttle. He could not shout more than a mere word at a time across the tumult of the craft, and so we were all silent for many and many a cross-country mile, snarling sullenly through bridge spans and tunnels, clattering briskly along the sides of long rows of standing cars, every now and then an eye of fire poking out of the darkness just ahead, flaming into a glare of headlight, then the rush and swish of the opposite train past us, followed by the pelting of cinders upon the cab roof—for long hours at a time we kept our speed up. We did not pause for water; we would only slacken ever and ever so little at the pumping-stations while the fireman dropped the tender scoop of the thirsty engine into the reach of track tank.

For sixty seconds there would be a mighty splashing round the tender, and then the fireman would look at his water-gauge and say that it was all right.

After that, glance into the night once again. Ahead is a long stretch of straight track and the monotonous reach of signal lights, protecting the blocks into which the line is divided for safe operation. Each should spell yellow and safety before the train passes it, and the engineer reads the signal for repetition to his fireman as a safety precaution. But when the lamp reads red at a single block he does not stop, only slackens the speed of his train.

"A man would be a fool if he came to a dead stop on a straight line," he complains to you afterward, "when he can see with his own eyes his track clear ahead to the next block and that reading safety."

"A red light a red light always," you may return to him.

"They don't allow you no leeway for judgment," he continues. "They seem to think that you must follow that rule-book blindly, and that a man is going to ditch his train a-purpose. Moreover, if you're running passenger—any one of the high-class trains—and follow the rule-book to a 'T,' not using any judgment, you're not a-goin' to make your schedule, and after a while the boss will be askin' you the why of it. Then you've got to make your schedule or you'll find yourself changed from your swell run. They won't say the real why, but the boss has been using judgment. You get that point?"

It is not an agreeable topic for any railroader, and he quickly changes it. He evidences real pride in "the road."

"If all the rolling-stock on this system were piled up end to end on one track it would stretch from New York to Milwaukee and a little beyond. There's a heap of power on this road."

"Where did you get that?" you ask him. He is insulted.

"I worked it out from the annual report," he tells you.

You have not done credit enough to the intelligence of the American railroad engineer. If you were to ask him about the theory and the practices of English and Continental railroading, he would probably give you intelligent answers. The railroad employs no poor grade of labor in its operation.

Here is another great railroad yard—this almost filling a mighty crevice between God's eternal hills. This is within the mountain country, and the gossip that you get around the roundhouse is all of grades—you hear how Smith and the 2999 pulled seven Pullmans around the Saddleback without a pusher; how some of the big preference freights take four engines to mount the summit; the tales of daring are tales of pushers and of trains breaking apart on the fearful climbing stretches.

Randall is yard-master, and you could put Sam Jones' yard in one corner of this preserve of Randall's. Randall is the antithesis of Jones. He is everything that Jones is not, and a capital railroader besides. He does not swear; he does not get excited; his system of ad-

ministration is so perfectly devised that even in a stress he never has to turn to work with his own hands. With him railroading is a fine, practical science. He will tell you of the methods at Collinwood, at Altoona, at Buffalo—wherein they differ. He is cool, calculating, clever, the measure of a fine man.

You speak of his yard as being something overwhelmingly big. He answers in his deliberate way: "We've more than two hundred miles of track in this yard; something more than a thousand switches to operate it."

Then he takes you down from his elevated office in an abandoned tower looking down over his domains. He explains with great care that, his yard being a main-line division point and not a point with many intersecting branches or "foreign" roads, its transfer house is inconsequential. The same process of classification that goes forward with the package freight in the transfer house Randall carries on in the outside yard with the cars. These operations are separated for east-bound and west-bound freight, and each is given an entirely separate yard, easily reached from the roundhouse that holds the freight motive power of the system. Randall's, being an unusually big yard further divides these activities into separate yards for loaded and empty cars bound in each direction over the main line.

I followed him to the nearest operating point—the west-bound classification yard for loaded cars. In the old days this was a broad flat reach of a score of parallel tracks, terminating at either end in an approach of lead track. Upon each set of three or four tracks a switch-engine was busy drilling cars in the eternal classification process. In these more modern days the "hump," or gravity yard, has come into its own. Half of the work of the switch-engines is done by gravity, and this new type of yard has an artificial hill, just above the termination of the tracks, where they cluster together, and upon this "hump" one switch-engine with an especially trained crew does the work of six engines and crews in the old-type yard.

Another preference freight, of similar claim as that PK-5 which brought me into the Middle West, rolls in to the re-

ceiving yard for the west-bound classification. Its engine uncouples and steams off for a well-earned rest in the smoky roundhouse. A switch-engine uncouples the caboose that has been tacked on behind over the division, and it is shunted off on to the near-by caboose track, where its crew will have close oversight over it—perhaps sleep in it—until it is ready to convoy some east-bound freight a few hours hence.

Blue flags—blue lights at night—are fastened at each end of the dismantled cars, and the inspectors have a quarter of an hour to make sure if the equipment is in good order. If a car is found with broken running-gear it is marked and soon after drilled out from its fellows, sent to the transfer house to have its contents removed, to the shops for repairs, or the “cripple” track for junk, if its case be well-nigh hopeless.

With the “O. K.” of the car inspectors finally pronounced, the train that was comes up to the hump, and the expert crew that operates there makes short work of sorting out the cars—this track for “stuff” southwest of Pittsburg, this next for Cleveland and Chicago, the third for transcontinental, and so it goes. Two lines of cars are drilled at the same time, for just ahead of the switch-engine is an open-platform car, known as the “pole-car,” and by means of heavy timbers the “pole-man” guides two rows of heavy cars down the slight grades to their resting-places.

The cars do not rest long upon the classification-yard tracks. From the far end of each of these they are being gathered in solid trains, one for Pittsburg, another for Cleveland and Chicago, the third transcontinental, and so on. Engines of the next division are being hitched to them, pet “hacks” brought from the caboose tracks, and the long strings of loaded box-cars are off toward the West in incredibly short time.

Of course there are some trains that never go upon the “classification” at Randall’s yard. There are solid coal trains bound in and out of New York, of Philadelphia, and of Boston, that pass him empty and filled, and only change engines and cabooses at his command. There are through freights, bound from one seaboard to the other, from far East

to far West, that do likewise. But the majority of the freight movement has the “sorting out” within his domain, his four “humps” are busy day and night with an ordinary run of traffic, and you shudder to think what must be the condition when business begins to run at high tide.

“We get it a-humming every once in a while,” he finally confesses. “We had one day, a little time ago, when we received one hundred and twenty-one east-bound trains in twenty-four hours, more than thirty-two hundred cars all told. That meant, on an average, a train every eleven minutes and a half. That same day we got seventy-eight west-bound freights, with more than thirty-six hundred cars. That meant nearly seven thousand cars handled on the in-freight in twenty-four hours, or a train coming in to me every seven minutes and a half during day and night. They don’t do much better than that on some of the subway and elevated railroads in the big cities, and I haven’t said a word about the trains and cars we despatched—just about as much again, of course.”

Randall’s figures were startling. I called him “king of the situation.” He corrected me.

“I’m only a field-marshal,” he laughed. “I’ll take you to the king. He is up at the other end of the yard.”

That sounded simple and was in reality a good five miles. Over that five miles we pounded our way until we came to the dull and grimy general offices of the division. Through a long hall, up one flight of stairs, and at its head a door stood open, commanding a view of a line of shirt-sleeved men sitting before telegraph instruments at a long table, a still farther room where another shirt-sleeved man—their chief—sat alone.

“The dispatcher,” explained Randall. “He plays with trains as we play with cars. Now, *there’s* a man that’s got to show real head-work. He moves all this traffic, freight and passenger, and if something turns up wrong and goes helter-skelter, he’s the man they light upon.”

“He’s the king of the railroad?” I asked.

“Not so quick,” cautioned Randall. “He’s only a high minister in the cabinet. I’ll take you to the real king.”

There were brass railings to guard him, and long rows of desks, at each of which sat a pale-faced, tired-looking clerk. A haughty negro messenger held open a swing door of green baize and bade us enter.

"You may find the boss a little nervous this morning," Randall whispered, as we went into the inner office. "His pet train, the night-flying Limited, went into the ditch forty miles below here this morning. Landslide—it's bad railroad to operate up through these mountains, and the fog and all to tangle us in the early mornings."

But the Superintendent did not seem nervous. He was a veteran railroader, if you please, and he wore the medals of long service in the fine, kindly lines of his face. His was a big desk, and faced a bay-window, which in turn commanded, through the vista of an open park, the passenger station. A long train lay in the shed at that moment. Its passengers were getting lunch in the station restaurant, a fine old place whose reputation for the good things of real American cookery had spanned a continent, and Randall said that "thirty-two was mighty late."

"Did you get through all right?" the Superintendent asked me. "We had a nasty time of it last night west of here, sleet and blow and ice. There's forty miles of poles down through Indiana. I'm sending as far East as Burlington, Vermont, for linemen."

Randall told me something of this man's kingdom as the Superintendent ran through his mail—a miniature mountain of letters.

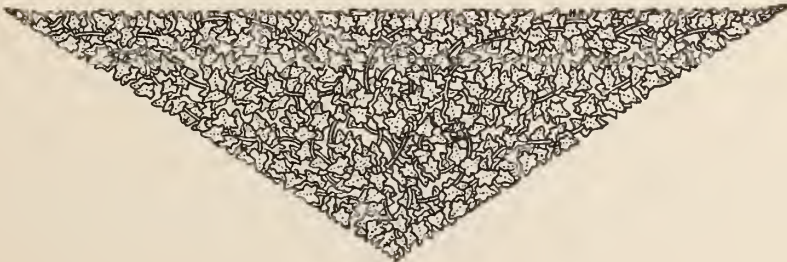
"We've got three hundred miles through here of the realest railroad in the land," said he, proudly. "We've got a ton mileage on this division that's equal to the entire ton mileage of one of those big roads that reach from Chicago to the Pacific. The boss here has eleven thousand men under him, and when we get hard times it keeps him guessing as to how to hold them on the pay-roll. It worries him to think of folks in this little city going without coal and bread and butter 'cause the traffic is slacking off."

Here was a kingdom. Freight traffic, passenger traffic, shops, maintenance of line, men, thousands upon thousands of living men, of keen intellects and diverse minds, a thousand operations a day—this cool-headed veteran was a real king. His was a kingly proposition—getting the traffic through in good times and in poor. To it he brought the resources of energy, more than energy—ability, more than ability—genius, sheer genius.

We hurried out. There was a delegation from some one of the many brotherhoods waiting to see the Superintendent. The vexed questions of pay, promotion, discipline, were to be threshed out still again. The king would have every use for each of his wits.

"Too bad about your accident this morning," I said to him at leaving.

"Two of the finest fellows that we ever put in a cab gone," he said, quietly. "I never get to sleep nights without hoping that that hair-raising Limited of ours has passed all the mountain turns in safety."



Portrait of a Lady, by Francisco de Zurbaran

THERE is a mysterious, sombre aspect to Spanish painting which reflects the gloom of religious fanaticism deeply interwoven with their national history. And this influence is felt whether the subject be one of their stately portraits or a strictly religious composition for the adornment of some church or convent. The sensuous semi-paganism of Italian painting did not satisfy the Spanish people, who demanded a severe asceticism in their art. Many of the native artists were monks, or if not, they were trained in the monasteries to meet the demands of the Church, their chief patron. And all were subjected to the most rigid censorship by the Inspector, an office founded by the Inquisition, who exacted strictest obedience to the rules laid down for all representations placed on canvas. This rigid discipline is felt even in Spanish portraiture, a field of art in which Spanish artists hold high rank. It betrays itself in the sober formality and stern dignity of the men, and in the calm and stately beauty of the women.

Zurbaran belongs to the great epoch of Spanish painting which covers the first three-quarters of the seventeenth century, and was a contemporary of Murillo and Velasquez, with whom he is well worthy to be ranked as an individual and independent genius. As Murillo's name is associated always with the Franciscan monks whom he loved to paint, so Zurbaran's brush was devoted to the white-robed Carthusians. There are few, if any, pictures of the Virgin among his works, but many unidentified female saints, which were but frankly painted portraits of the beautiful women of his time. These he painted with truth and great brilliancy, though lacking the ease of Velasquez. In this class Mr. Huntington's portrait, with its elevated expression and semi-clerical garments, may be placed. It will readily be understood that such a rôle could not but win popularity for any painter, hence before he was thirty-five Zurbaran was made painter to the king. He died when sixty-four.

W. STANTON HOWARD.



The Unknown Palisades

BY PHILIP VERRILL MIGHELS

THE edge of the world, if such a thing may be, lies hardly a rifle-shot away from one of the centres of the world itself—the city of New York.

The Palisades, those mighty walls whereon the annals of the centuries are graved—what an edge of the world their lip presents to him who comes, perhaps at night, to their rough-hewn elevation! In no place other than this near proximity to man and one of his greatest cities could a physical feature so profoundly vast and impressive be so hidden from the world. Their counterpart cannot be found in all the world; and yet the Palisades are almost unexploited and unknown to the globe-circling, sight-hunting public that yearly traverses the continents or seas to gaze at things less wonderful in some distant field of Nature's marvellous achievements. For little does any one know of these Titanie walls who has merely seen them from the Hudson. Were they somewhere off in a land comparatively inaccessible, reached by a transeontinental thread of steel, the guide-books would be rich in their pictured grandeur and man would rove far to explore them.

To the visitor who comes upon them for the first time, from the rear, these walls present in some aspects a panorama of immensity wholly unexpected. The edge of the world—I repeat the phrase—is the fit description, for this brink seems nothing less. It is lifted in places almost sheer in the air to a height of half a thousand feet. Below, at its base, the Hudson River moves in unhurried majesty, its tide nearly a mile in width. Across lies the low, crowded island of Manhattan, utterly insignificant in elevation as viewed from this lofty place of vantage.

I first came cautiously up to the lip at night, and this was the optical illusion: The moon hung in a cloudy sky; the

mists had obscured New York and all its lights. The river and the vaulted heavens were blended into one prodigious void by the dim, diffused light of the moon. There was nothing above but roofless space, there was nothing straight out but gray infinity, there was nothing below my very feet but the bottomless abyss of creation—nothing, absolutely nothing to be seen. The water, as water, five hundred feet below, had ceased to be. No ripple disturbed its calm. I had come to the lip where the world had its end, and the walls fell straight down into nothingness. The silence was absolute; the wintry air and a coating of snow completed the sense of desolation, where things had ceased to exist. Great fissures, split tables, and columns of rock, black wells of mystery and yawning depths—all rugged, forbidding, and austere, gulging off below—all completed the edgelike appearance of the scene. Had some vast force cleft the world in twain and dropped one half into swallowing space, the utter vacaney that stretched out beyond from my foothold on the verge could have been no more thoroughly impressive. It was awesome—a strange, transporting sensation of solitude, such as unpeopled planets at the limits of creation would suggest.

That the Palisades in their unfamiliar features, their aspects derived from the seasons, atmospheric changes, and the hours of day or night, could so long have escaped a public recognition is astounding. Extending as they do for fifteen miles along one of the world's most beautiful water-highways, they present to the edge-explorer innumerable variations upon Nature's masterpieces in ruggedness, majesty, and grimness. No one, acquainted only with their wall-like appearance as presented from the river or the New York shore, may conceive of the hugeness, the boldness, or the roughness revealed, as it were, behind the scenes.



Painted by George H. Shorey

MIGHTY WALLS WHEREON THE ANNALS OF THE CENTURIES ARE GRAVED

They are built of basalt—hard, straight-cleaving rock, like that of the Giant's Causeway, in Ireland. The brink—in places singularly flat and smooth—is shattered in forms not infrequently suggestive of the wonderful mosaics of the Causeway. But here there are cracks which extend straight down a hundred feet, cracks ten or twenty feet in length and a foot or less in width. There are masses of adamant, large as a house, that appear to be hung so precariously above the drop that it seems the mere weight of a child might topple them down the lofty structure. The hard, black material is often fissured and hewn into almost perfect columns, of Doric severity, sometimes as straight as if the Architect and Builder of it all had plumbed them there against all time and shock, like monuments to beauty and precision.

The sense of the overreaching mass is of immensity. Its headlands are prodigious, its units are huge, its distances and upraise are tremendous. It could scarcely have been more majestically crude on the day it was poured from the volcanic crucibles of Nature—molten themselves from the creative heat of the mid-sphere furnaces of earth. In places it is like a succession of amphitheatres, stupendous in area. Here is one Titanic semicircle abandoned to the silent tragedy of trees subsisting on little else than rain and light, with perhaps some elemental hope, too mute for our dull comprehension; and just beyond a jutting headland of the wall is another coliseum even more prodigious in dimensions. At times the rock in some such place is piled up in colossal terraces, as if constructed for a conclave of the gods, who, from this fitting aloofness on the heights, would watch the progress of the pygmy, man, on the panoramic Hudson stretched below. There are not two, but miles of these vast auditoriums, rudely excavated in the solid rock and left in all the splendor of their roughness. And how silent they are, and austere!—what theatres for the winds of passing centuries to play in as they pass!

Again, the Palisades resemble a dry Niagara. The real Niagara, stripped of its flood, would be but a miniature of this. Here is not only a greater drop,

and scores of horseshoe bends and massive promontories of the rock, but miles succeeding miles of the sheer descent over which all the rivers of the earth combined could pour in a world-engulfing torrent. There is nothing else like them in the prospected round of the sphere. In no other place in all the world can the daring adventurer walk so many miles at the very scarp of a precipice. And always the one impression is of immensity—and magnified immensity—so huge are the blocks of which it is built, so high and extensive the structure.

It seems like a visit to a novel land to behold these structures from their brink. From some massive pedestal, overhanging a drop of many hundred feet, the nearest promontory looms Cyclopean against a high horizon where the sky and river meet. Far down, on the slender strip of beach below, are the dwarfed habitations of some fisherfolk, and the men themselves, of still more stunted stature, living out their lives. They and their huts have dwindled into insignificance—and yet remain far greater than the giant cliffs above. Here is a huge rock pinnacle, standing apart from the wall. Monoliths of giant proportions shoulder together in its bulk. Below, between the wall and the base of the pillar, a boulder, tons in weight, has lodged to await disintegration, pushed from the crumbling lip above by the patient force that will one day level all the mass. Here and there, in some frost-widened crevice, a tree has thrust tenacious roots, in the grim, silent struggle for existence. The winds have torn at the stubborn thing till its limbs resemble muscled arms, made rigid with resistance, but there it yet remains. Nearly all the trees upon the barren edge, or fastened in a pinching cleft, where they typify the almost incomprehensible insistence of life, are gnarled, undersized, and contorted by their fight in the passion to survive. A number are cedars, dwarfed old men of their clan; but perhaps the trees that lose their leaves in winter, and cling there naked, twisted, and alone, best testify to that hard mandate, "Thou shalt live!" that actuates the being of us all.

It is almost endless, this magnificence of rock with its constantly varying fea-



Painted by George H. Shorey

HERE AND THERE A TREE HAS THRUST TENACIOUS ROOTS

tures. There are scores of gorges, channelled in the basalt, as steep and terrible as any that imagination could conceive or precipice afford. There are many places the unprotected brink of which is not only appalling, but also where a short, false step would plunge an explorer down to death on shattered boulder beds below. There are profiles of castles and animals and gods, colossal, broken, changing only with the centuries, at the sculpturing hand of time. There is rock enough to build a thousand pyramids and the cities of the world.

One of the most inspiring aspects of the Palisades is afforded in winter, of a moonlit night. Not far above old, historic Fort Lee the ruggedness has its beginning. This is, perhaps, one of the most astonishing facts concerning these towering walls, that they lie so close, in all their primordial grandeur, to the

most artificial, man-subjugated area that civilization has evolved. Indeed, when the wind flows up with the tide and across to the world-edge of the cliffs, the roar of New York—that full-throated cataract of life—comes there with a volume and incessancy that those who are part of it miss.

On such a night I have seen a new creation. Unlike the hour of the enshrouding mist, this night showed New York in starry glory. On coming to the edge and looking out upon the sky and river, there seemed to be nothing in all the space beyond save the long, slender strata whereon New York has been so tremendously extended. As before, in the mist, the river and sky were of one gray tint and one profundity. If the sky seemed boundless, the Hudson seemed fathomless, an awe-inspiring deep that blended with infinity itself. Manhattan,

therefore, seemed to hang in space, a slender dark region of mystery, brilliant with millions of stars. It seemed to have no substance, and to be but a darker, star-sprinkled zone in the ether. Like a new Milky Way, in a firmament unplotted, its countless lights stretched for miles across the sky, many in clusters, many in rows, but all of them lifted with their hazy foundation into regions with the moon and distant planets. A roaring train, across the Hudson's width and at the island's very shore, came thundering down from Sleepy Hollow. The locomotive's furnace fires cast a glow upon the steam and smoke that issued from the



THE NIGHT SHOWS MANHATTAN'S COUNTLESS LIGHTS

funnel. It seemed like a comet with its trailing tail rushing through the stellar constellations. Then a boat, as silent as the moon in its orbit, came gliding down the bosom of the river with two lights visible against the gray, like twin stars floating in the void.

The cliffs themselves, like drawings made in black and white, had taken on a midnight mystery. Deep shadows, soft grays, and the modified whites of frost and ice, laid a sombre mood upon the walls. They resembled huge, unpeopled castles of the Titan-folk, forbiddingly roofed by the snow.

Far beyond, up the river, where man has not yet come to encroach with his dwellings on the edge, the city and all its noise, its lights, its touch of things man-made and bizarre, is lost at last. Here things

remain as they were when the elements carved out the bed that the Hudson was to follow evermore. It is almost incredibly wild and abandoned to the wild. Silence broods here nightly, at the brink. When we came to this untramped region, in the moonlight, the sense of solitude was universal. A few gray rabbits scurried swiftly from the rocks and fled to their retreats. We came to a clearing, where the moon shone whitely down. There on the snow was a blot of red and a tuft of wind-blown fur. Reynard the fox, with no haunting fears of the arch-destroyer, man, had dined—achieved success, in a word, and gone his way. The same struggle and tragedy of life, here on the cliff and afar



PROFILES CHANGING ONLY WITH THE CENTURIES

in the town, go on forever. But the contrast could scarcely be more wide. Yonder, with lights, the roar of machines, and with Comedy invited to the feast, the man prowler works out his merciless scheme of survival with all his artificial tricks. Here it is the world-old simplicity of craft, in a sanctuary of the wind and solitude. It is well-nigh unbelievable that in any place so hedged about by the oldest, largest cities of the continent the constant operation of Nature's forces and the unchanged ways of wild things should so force themselves upon our observation. The theatre of natural existence and the stage of artificial life touch scenes upon this old volcanic wall, and yet are forever apart.

In a snow-storm the Palisades present an aspect inspiring to a mood of peace. Stern headlands of the adamant, looming with perhaps even greater magnitude for the blotting out of all the world about them, are softened and grayed till

becomes a face of glass where the clear, hard coating plates it over. From crown to base the wall will appear as one vast glacial front, and if, perchance, as often happens in winter, the Hudson is float-

ing full of ice, the river resembles a terminal moraine for the unmoving, frozen Palisades. It is not uncommon, when this frozen-rain phenomenon occurs at night, for the sun to rise unclouded on the following day and gild the vast, shimmering veneer of ice. With the tree limbs encased and the face of the cliffs laid an inch under crystal, with a million brilliant facets all aglint, the beauty is too magic to endure. But, while this may happen hardly once in three years, the sight of the Hudson filled with moving ice may be witnessed from the cliffs in any winter. It is always a wonderful tide—and terrible. Ice floes of two and three acres in extent are not uncommon. For the greater part, however, the cakes are ten to twenty feet across and many are broken much



GIANT MONOLITHS SHOULDER TOGETHER

their ruggedness is smoothed entirely away. They take on a majesty inseparable from great, simple masses of form. The contrast, then, of huge, dark blotches with the level lakes or uplifted islands of snow is striking in a singular degree.

At times, a sleet of rain and ice, all of it clinging to the barren walls and freezing as it falls, performs a wondrous miracle of change. The rock face then

smaller. All of them grind and climb upon each other like struggling things of life. And the sound they make, a ceaseless clatter as of sliding slabs of crockery, comes clearly to the brink of the wall.

There are many days in an ordinary winter when the Palisades hold frozen streams upon their terraces like crystal stairways climbing to the top. Many such streams go plunging down the scarp, some of them large and others



Painted by George H. Shorey

COLD MAJESTIC HEADLANDS OF ADAMANT



THE PALISADES IN WINTER

small. When torrents of rain and melting snow supply innumerable cataracts, there are miles of roaring, frothing falls leaping whitely down the gorges and the rifts.

With the varying seasons come varying phases of the Palisades. Whatever the month, the contrasts of the river of life, so far below, with the vast, dead walls, are constant. Almost eternally the Hudson bears its human flood upon its bosom, and almost never do men fare to some distant portions of the cliffs. At night man's search-light roves the mighty

faces of the rock, startling the shadows from their dark abode and throwing into bold relief the features of some rock-god monstrous as the Sphinx. But the steamers pass, as all things pass, and the Palisades look down, unchanged, upon the ever-changing vale of life below.

In the spring there is tumult for a time along the fifteen miles of wall, when the freshets begin their attack that always wears a little from the bulk. These are days of some danger and decided charm to the wanderer exploring on the lip. The severity and

frowning of the wall, increased by the sense of its nudity throughout the winter solstice, now give place to the tenderest of all the outdoor moods. The countless vines that cling upon the adamant resume a timid show of life. The empty trees move in their furniture. Before the leaves become real foliage and while they are still the merest fairy ornaments, the scenes upon the Palisades are of beauty ineffable—such a surrender of austerity at the touch of Nature's wand! They are still aloof—they must always be aloof—nevertheless, as the greens increase, and the cloth-of-leaves grows deeper in its tone, more than half the grimness of the rock-bound ridge is at last concealed, and the place no longer seems the end of things—the brink of the world's abyss.

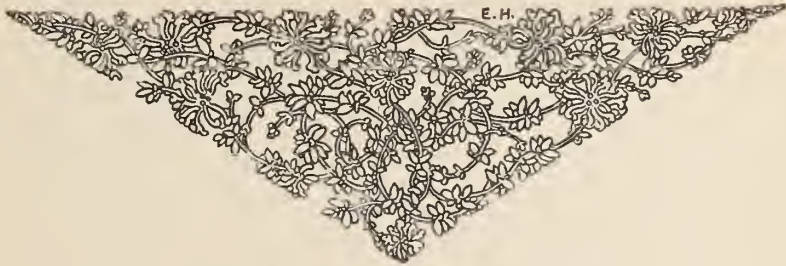
This early spring is the season when the forest fires lend a new, ruddy beauty to the cliffs. They start in the dense, sapless undergrowth below and creep in flame waves up the slanted way of earth, rock, and trees wherein the walls are standing to their knees. At times these flames ascend to the top of a tree, as if to hang out a banner of their lawlessness for all the world to see; and the reddening glow that wavers on the rock gives color and life and huge, fantastic modelling of giant features to the dull-black adamant, peopling its terraces with

ghostly forms that sit there in judgment on the world.

Summer at the Palisades, despite its beauty, robs the massive structure of its massiveness, its sternness, and its majesty, thus belittling the very charms its charms would beautify. The walls remain magnificent, especially as seen from the lip, but clothed too much, as Apollo might be clothed, with ornaments upon his neck and knees.

In the autumn these heights are benches for the gods' great color show. At their feet, on their summits, up their straight-lifted walls, they are gilded, reddened, purpled, greened, with the frost-painted glories of the change. The outburst is a flaming prodigality of year-end splendor. As if for the very severity so soon to descend upon them, they revel in the lavish mood of wealth.

This is the climax of their garnishment, if not their greatest charm. Then, presently, the jealous wind, the frost that increases in asperity, and the rains, no longer beneficent, strip richness after richness from the trees. Slowly, inexorably, the rough-hewn immensity emerges from its robes, despoiled day by day of this vain crimson and that rare gold, till, once more naked, forbidding, and austere, it stands above the all-engulfing mist like the ragged, broken edge of the world.



THE WORLD'S GREATEST AQUEDUCT

WATER FROM THE CATSKILL MOUNTAINS TO THE
CITY OF NEW YORK

BY ALFRED DOUGLAS FLINN

Engineer, Headquarters Department, of the Board of Water Supply of the City of New York

THE Catskill Mountain water system being constructed for New York City is one of the most notable engineering enterprises ever undertaken. Ranking with the inter-oceanic canals at Suez and Panama, the Assuan irrigation works in Egypt, and the projects which are converting western America's arid wastes into fruitful fields, the Catskill aqueduct, with its tributary reservoirs, probably surpasses any one of them in the variety of problems to be solved. Although undertaken by a municipality, these works in magnitude and cost compare with national enterprises.

Imperial Rome's longest aqueduct was fifty-seven miles in length; the Catskill aqueduct will be ninety-two miles long. Rome, with hordes of laborers from conquered domains, carried its aqueducts at the hydraulic gradient across valleys on imposing masonry arches. Modern explosives and rock-drills enable New York to tunnel in solid rock beneath valleys and rivers, avoiding masonry, which is now expensive, and which is likely to suffer in New York's severer climate.—THE EDITOR.

CATSKILL MOUNTAIN water, gathered from brooks that have been fed by melting snows and copious rains, and have tumbled over rocky slopes into the streams of the mountain valleys, will in a few years be served to the inhabitants of New York City. The project ranks as the greatest municipal water-supply enterprise ever undertaken, and as an engineering work is probably second only to the Panama Canal. The need of the water is much greater than is realized by a majority of the citizens or by the guardians of their interests.

Nothing can so quickly and completely disorganize the complex activities of a modern community as a shortage of suitable water; no single agency can so rapidly spread disease and death as a polluted water-supply. For several years New York has been using more water than its sources of supply can safely be depended upon to furnish in a series of dry years,

such as have occurred within the memory of men who have scarcely reached middle age. Continuing years of abundant rainfall have masked the danger to which engineers have repeatedly called attention.

In 1905, as the result of a movement promoted by civic bodies in the days of Mayor Van Wyck and Mayor Low, a bill was introduced into the legislature, on the initiative of Mayor McClellan, which, becoming a law, enabled the city to start new systems of water-supply that, with the already existing permanent works, should ultimately give New York the best and largest water-supply ever known.

As thousands of water-wise Americans know, New York City ("old New York") has used Croton River water for more than two generations. Similarly from the Ridgewood system of wells, streams, and reservoirs, Brooklyn has drawn its supply, often scanty. Approximately five hundred million gallons of



VIEW, LOOKING NORTH FROM THE WEST POINT WATER BATTERY, OF THE HUDSON BETWEEN STORM KING (ON THE LEFT) AND BREAKNECK, WITH VERTICAL SECTION OF THE AQUEDUCT TUNNEL UNDER THE RIVER

The rock-bed of the Hudson is indicated by R, R; S is the body of sediment between the river current and the rock-bed; W, the black line indicating varying depth of river water; A, B, aqueduct tunnel emerging from Storm King; B, C, tunnel shaft now being sunk from the shore of Storm King; C, D, aqueduct tunnel about half a mile long to be bored in solid rock twelve hundred feet below the surface of the river; D, E, tunnel shaft now being sunk from the shore of Breakneck; E, F, G, H, continuation of the aqueduct tunnel into Breakneck, with a rise to flow-level, whence the aqueduct will proceed to the enlarged Kensico reservoir.

water are consumed by the metropolis every day, a stream which would flow hip-deep between the buildings in Fifth Avenue's fashionable shopping district at a comfortable walking pace. For every man, woman, and child this allows a daily average of 125 gallons. Or, to put it still another way, for all domestic, manufacturing, and public purposes New York uses every day water which weighs about eight times as much as its population.

Compared with the 130, 140, 200, 220, and 320 gallons used every day for every person in several large American cities, New York's allowance is moderate, especially when one recalls the character of business and the methods of living which prevail in the metropolis. Liberal, even lavish, domestic use of water is not waste. The very necessities of life demand that there should be a maximum supply, in order to provide for the average demand for the individual. The word "waste" should be properly interpreted. Its use in writing about water-supply has been unfortunate, for it has been employed both technically and popularly to characterize quite different conditions in the economy of water. To let a dozen glassfuls flow from a faucet in order to get one cool draft is not waste so long as this is the least expensive way to get cool water. In a broad sense, to permit water to flow from the faucets through cold winter nights is not waste so long as this is the least expensive way to protect one's plumbing fixtures. To allow even large volumes of water to spill over the lowest dam of a watershed is in no sense waste when the city has already taken from the stream all that it can use, or when the saving of occasional discharges of this sort would cost more than to get the same quantity of water, of equal or better quality, from another stream. Doubtless some water is carelessly or wantonly wasted in New York City, but not nearly so much as some persons assume. Waste should be discouraged and curtailed, but waste of water can no more be wholly prevented than the waste of energy and time. But if all the waste which it would be reasonably practicable to stop ceased, New York would still require more water-works to provide beyond peradventure for present needs and future growth.

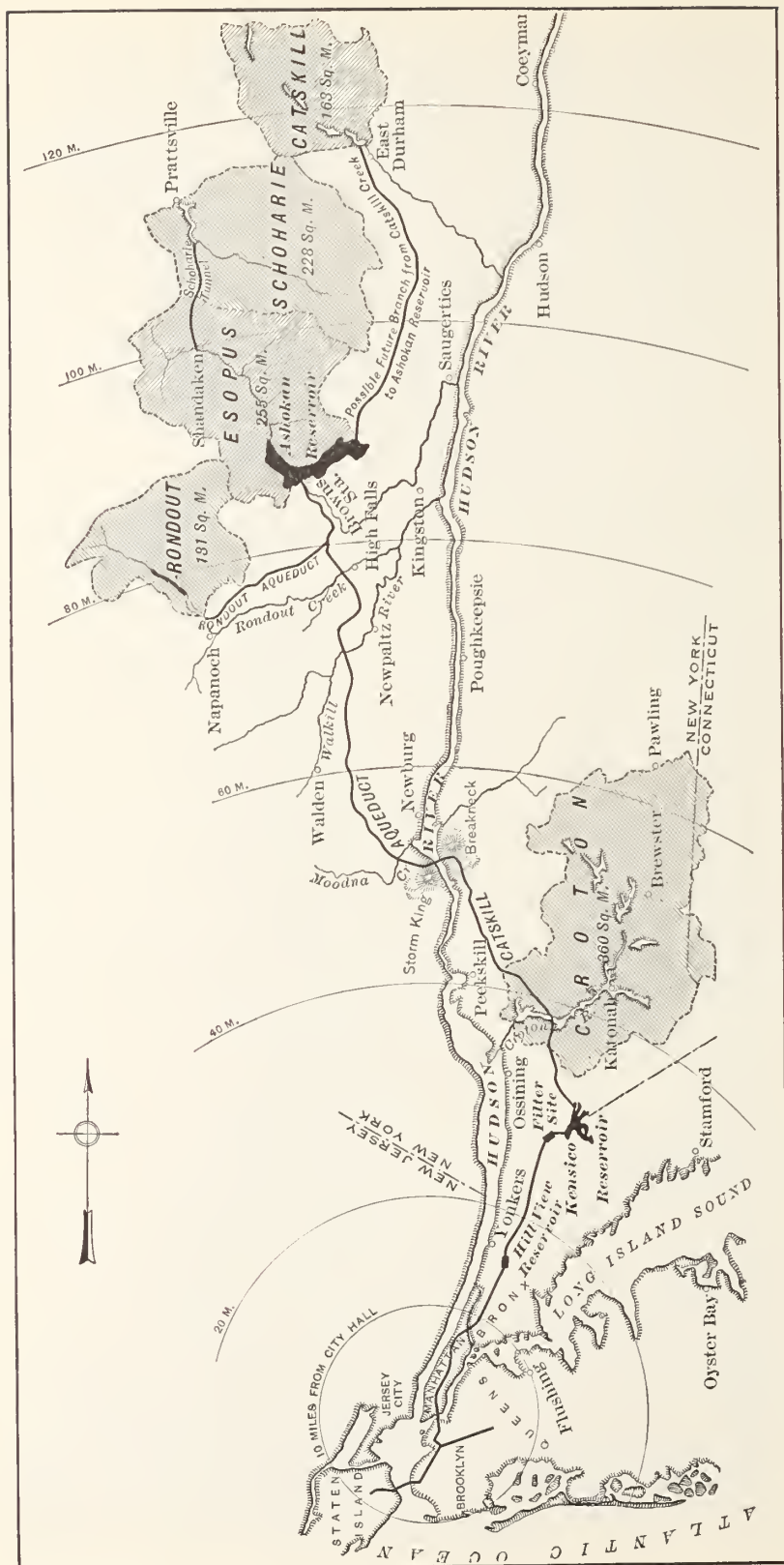
Croton River drains into New York's

reservoirs the water of 360 square miles of forest and farm, and can safely furnish about 336,000,000 gallons daily. Two aqueducts, one thirty-four miles long, built in 1842, and having a daily capacity of 80,000,000 gallons, and the other thirty-two miles long, built in 1891, and having a capacity of 300,000,000 gallons, bring this water to the city. To procure 500,000,000 gallons of Catskill Mountain water daily, over 600 square miles of mountain and meadow will be brought under tribute, several large reservoirs created, and an aqueduct ninety-two miles long built, with many miles of conduits within the city limits.

The extent of these existing and proposed works is not readily to be comprehended even when reduced to the common money measure. For the portion of the Catskill works needed to bring into the city every day unfailingly 500 million gallons an expenditure of \$162,000,000 is estimated. But these disbursements will be spread over many years, and the burden will not fall heavily, except for possible temporary difficulties in raising ready money for construction payments. Indeed, the cost of water for every person will be on the average less than one cent per day. Furthermore, these water-works, well managed, will not only pay interest on the investment and cost of operation, but in a relatively few years will pay the capital cost. It is reasonable to believe that the works will be as permanent as those of Rome.

Because of its antiquity and impressive ruins, the water-supply of ancient Rome is doubtless the most famous in the world. In 97 A. D. the imperial city had no fewer than nine aqueducts, with an aggregate length of 263 miles; but if the water that all those aqueducts could carry (estimated at 84,000,000 gallons per day) were put into New York's Catskill aqueduct, it would rise only to the height of about three feet and three inches.

In the angle of the State west of the Hudson and south of the Mohawk are hundreds of square miles of territory partly forested, but in the main little cultivated and sparsely populated. From time to time the large timber has been cut; the farms have depreciated. From the hills tens of thousands of square feet of bluestone have been quarried for sidewalks,



MAP OF THE CATSKILL AQUEDUCT SYSTEM

The shaded sections west of the Hudson indicate the watersheds which will fill the Ashokan and other reservoirs. At Storm King a tunnel aqueduct will pass under the river to Breakneck; thence the aqueduct will cross the southwest corner of the Croton watershed to the enlarged Kensico reservoir, south of which is shown the site for the filters, and farther on the great equalizing Hill View reservoir.

but within twenty years even this industry has been almost supplanted by the use of Portland cement concrete. There remain the bracing air, the attractive scenery, and the abundant rainfall; and thousands of holiday-seekers flock thither. Their entertainment now constitutes the most profitable business of the region, and will not be interfered with by the project. The city, therefore, is not destroying large commercial or agricultural industries, but is simply making the highest use of one of the principal resources of the region, its water.

After repeated investigations, the most thorough of which were those of the Burr-Hering-Freeman commission, eminent engineers appointed by Mayor Low in 1902, several large streams in the Catskills were selected for successive development as needed. Esopus Creek, above the best dam site, has a drainage area of 257 square miles; Rondout Creek has a useful watershed of 131 square miles; above the selected point of diversion, Schoharie Creek drains 228 square miles; and 142 square miles of the basin of Catskill Creek can be utilized. Thus, with the addition of several minor streams, a total water-gathering area of 885 square miles has been found, which, it is conservatively estimated, will yield even in a series of dry years about 770 million gallons daily. These waters are all of exceptionally high quality, and, barring Catskill Creek, are remarkably soft. In this respect even the latter suffers only by comparison with the unusual softness of the others.

Although turbulent torrents of great volume rush through the gorges of these mountain creeks in flood-time, in late summer the streams could all be run through a four-foot pipe, one of the street mains of a large city. But a great community does not use water in any such irregular fashion, and nature must be regulated to meet the necessities of man. The flow must be controlled, so that flood excesses may supplement drought deficiencies. Great impounding, or gathering, reservoirs are the means which engineers employ to this end. In the Catskill scheme eight large impounding reservoirs are contemplated, of which the first to be constructed, and by far the greatest, is the Ashokan reservoir on the Esopus. In the southeastern corner of this mountain region geologic forces

have provided a great basin in which can be stored not only the waters of the Esopus, but also part of the water of the other streams. Through one of the ridges a tunnel aqueduct ten miles long will bring in the Schoharie contribution, while the Catskill Creek water will flow through an arched masonry conduit, to be built mostly in trench along the eastern slopes of the mountains for thirty-two miles. From the Ashokan reservoir the main aqueduct, called the Catskill aqueduct, will convey the water to the northern boundary of New York City. Into this aqueduct, about six miles below its starting-point, a branch aqueduct will bring the water from Rondout Creek.

But what is an aqueduct? How large is this one? If the curious inquirer will visit Peekskill, New Paltz, or High Falls, where construction is in progress, he will come upon a great trench, in some places thirty feet wide at the bottom, with steam shovels, rock-crushers, concrete-mixers, and hundreds of men and horses at work. Here and there stretches of concave concrete paving have been laid in the bottom of the trench. Elsewhere this paving is being covered by a large concrete arch, thus forming a great tube, or conduit, shaped something like a horseshoe, seventeen feet high and seventeen and a half feet wide inside.

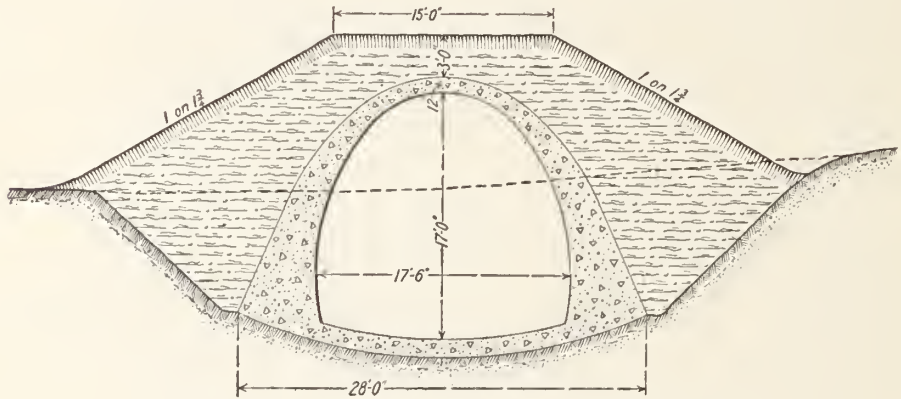
Over this concrete conduit, wherever it is not wholly buried by the depth of the trench, an embankment of earth will be built, except where the trench is mostly through rock, where the bank will be made partly of the rock fragments. Through this aqueduct a railroad coach could easily pass, with a man sitting on top, and there would be room on each side for a man on horseback. In this aqueduct water will flow at the maximum speed of four feet per second, or two and three quarter miles an hour, a comfortable promenading pace, or at the average daily quantity rate of 500 million gallons. This quantity of water, flowing at the velocity mentioned, would make a stream about four feet deep in the ordinary cross-town street of the Borough of Manhattan.

This is the cut-and-cover, or open-cut, type of aqueduct, and is built along the hill slopes or across the flat lands wherever the topography permits a trench to be dug at the proper elevation. In this kind

of aqueduct the water flows freely, as in a brook, and not under pressure, as in a pipe under the street. Of the cut-and-cover aqueduct there will be approximately fifty-four miles.

But the topography and geology of the Hudson valley do not permit the Catskill

very thoroughly combined in special machines. When first made, such concrete is plastic or fluid, according to the proportion of water, and can be formed or cast into any desired shape; but in a few hours it sets, or hardens, and rapidly becomes like stone, continuing to increase in



SECTION OF "CUT-AND-COVER" AQUEDUCT, BUILT OF CONCRETE, WITH COVERING OF EARTH

aqueduct to follow a smooth grade. To avoid long and expensive detours around hills, and to pass ranges of mountains and hills which it would be impracticable to go around, tunnels are being driven through them at the same elevations that the cut-and-cover aqueduct would occupy if the topography were more favorable. Since, however, tunneling is more costly than open-trench work, the size of the aqueduct in these tunnels is less, the dimensions inside being thirteen feet, four inches wide, and seventeen feet high. In order to get the same quantity of water through them, a more rapid flow is necessary, and therefore the slope is a little steeper. Of such tunnels, known as grade tunnels, there will be twenty-three in all, aggregating thirteen and a half miles in length, or approximately as long as Manhattan Island. Virtually the whole length will be in solid rock, and, whether in rock or earth, will be lined with concrete, so as to provide a smooth, clean surface for the water and to prevent the falling of rock or earth from the roof or sides.

In passing, it may be well to explain that the concrete which will enter largely into the construction of the aqueducts and dams is a mixture of Portland cement, sand, crushed stone or gravel, and water,

strength for months, and more slowly for years. Portland cement, a heavy, gray powder, is manufactured in many parts of the country, but that used in the Catskill works will doubtless come mostly from the Lehigh Valley district of Pennsylvania and from the vicinity of Catskill village, New York. The suitability and availability of concrete greatly facilitate and cheapen the construction of dams and aqueducts, displacing more costly brick and stone masonry. Forms of construction which would be impracticable with the latter are entirely feasible with concrete. In building the aqueduct, the soft, fresh concrete is placed against steel plate forms, or molds, erected in the trench or tunnel, thus securing a smooth, clean surface for the water.

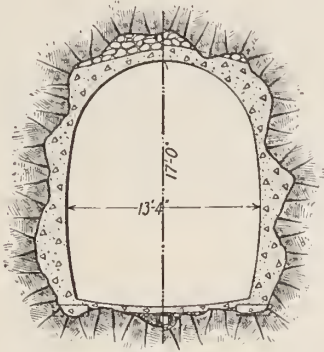
The pathway of the Catskill Mountain water from the great Ashokan reservoir to New York City will have many an up and down, and some of the "downs" will be deep. West of the Hudson, several tributaries with broad valleys trend generally northeasterly, so that the aqueduct has to cross these valleys. The great river itself has to be passed, and east of it lies the important valley of the Croton, and at the southerly end of the aqueduct for about two miles even the high land is

so low and the real estate so expensive that a tunnel under light pressure is the most economical type of conduit.

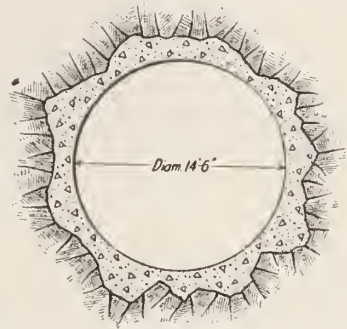
These valleys are so far below the natural level at which the water will flow that it will have to be carried across them under great pressure; for the valleys are

Of course it has not been wholly feasible to avoid all these difficulties, but by going to great depths, satisfactory conditions have been found.

Two of the most important and beautiful valleys are those of the Rondout Creek and the Wallkill River. The Wallkill



GRADE TUNNEL IN ROCK, LINED
WITH CONCRETE



PRESSURE TUNNEL IN ROCK,
LINED WITH CONCRETE

much too wide for the stone arch construction which the very mention of the Roman aqueducts at once suggests, or for any other kind of bridge of the great height necessary. The most permanent and economical form of construction, therefore, is a tunnel through the solid rock, passing not only beneath the visible streams, but also under the pre-glacial gorges, now filled with earth and hidden from view. It is of the utmost importance that these tunnels should be driven through strong, sound rock, so that there will be not only no leakage of water, but sufficient weight and strength to resist the pressure which the water will exert due to its distance below the hydraulic gradient, or natural flowing level, for cut-and-cover aqueduct.

Before these pressure tunnels could be designed, a great deal of information had to be obtained about the geology of the valleys. Hundreds of drill-holes, with individual depths often of several hundred feet, and aggregating many miles, had to be sunk through the earth into the rock in order to determine its character at different points, as well as its depth, so that the tunnels might be located safely, avoiding as far as practicable the rocks which were too weak or difficult for tunneling.

valley was found to be very simple geologically, Nature being satisfied with one kind of rock, through which tunneling will probably proceed with no more than the ordinary difficulties. Rondout valley, on the other hand, is somewhat of a geological museum, containing at least twelve different kinds of rock, varying from the hard quartzite conglomerate, locally known as Shawangunk grit, to soft, water-bearing, and treacherous sandstones and limestones. Sound, strong granite is found beneath the Hudson River and on both sides at the selected place for crossing between Storm King and Breakneck mountains, the picturesque northern gate of the Highlands of the Hudson, about four miles above West Point.

Several years of hard work will be required for driving and lining these tunnels. For the Rondout siphon,¹ besides the shafts at each end, six intermediate shafts, making eight in all, have been provided to aid in construction, so that the digging of the tunnel may proceed at fourteen points. To aid in constructing the Wallkill tunnel, four intermediate shafts will be used. Each of these tunnels is about four and a half miles long. For the siphon beneath the valley of Moodna Creek, stretching south to the Hudson

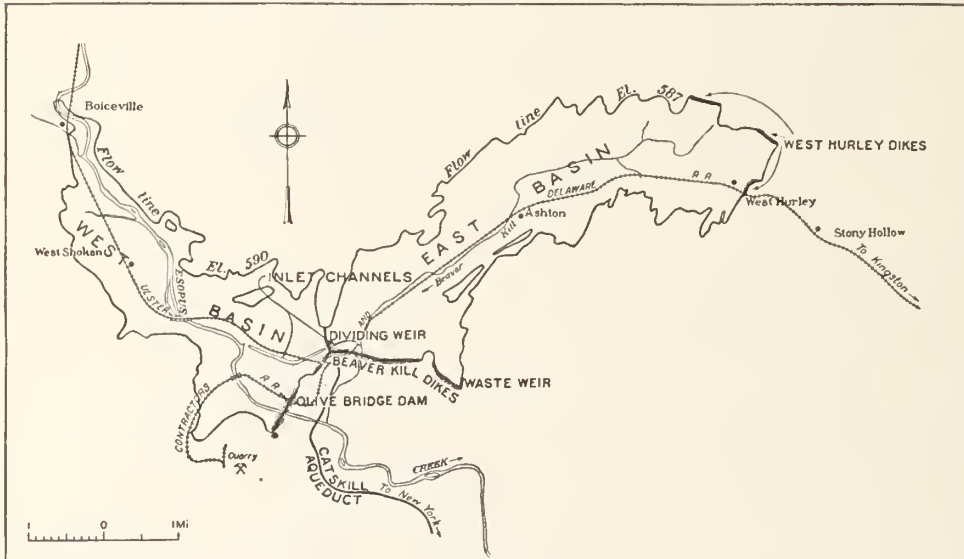
¹ By way of explanation, aqueducts, or conduits, beneath valleys are frequently called inverted siphons, or simply siphons, because of their similarity to true siphons turned upside down. Of course there is no siphonic action.

River, five miles long, there will be seven shafts. A shaft about 1200 feet deep is thought to be necessary on each bank of the Hudson. To cross beneath the Croton reservoir, a tunnel with two shafts 510 and 560 feet deep will be required. These pressure tunnels, aggregating seventeen miles in length, will also be lined with the most substantial concrete masonry. Inside this lining, the waterway will be circular, with diameters ranging from fourteen feet to sixteen and a half.

If to the new tower of the Metropolitan Life Insurance Company, at Madison

tunnels, being a more expensive type, have smaller waterways than the grade tunnels, and the water will flow through them at higher velocities.

Besides the great valleys to be crossed by pressure tunnels, there are many others too narrow or of too unfavorable geology to be crossed economically by tunnels. Steel pipes, incased in concrete and lined with cement mortar, will be used for passing these depressions. Three pipes will be laid across each valley, but only one will be laid at first, the others being deferred until the increase in the demand



MAP OF THE ASHOKAN RESERVOIR

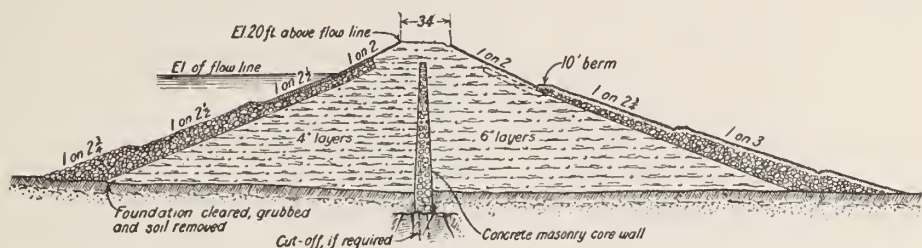
Square, New York, there were added the height of a Fifth Avenue mansion, it would approximately equal the depth (708 feet) of the shaft at the southerly end of the Rondout siphon. Even in the shallower Walkill siphon the cages carrying men and materials up and down from the tunnel level will travel a distance (in the deepest shaft, 480 feet, in the shallowest, 350 feet) greater than that from the sidewalk to the top of the towers of the Park Row Building, for a number of years New York's tallest building. From the bottom of each of the working shafts tunneling will be extended for an average distance of nearly half a mile before the headings from adjacent shafts will meet. When finished, each tunnel will be large enough for a subway train to pass through. Pressure

for water makes the expenditure necessary. In general the diameters of the pipes inside the lining will be approximately nine and a half feet north of Kensico reservoir, and eleven feet south of that reservoir. At each end of every siphon, and at every reservoir, there are to be buildings containing appliances for controlling the flow of the water, known as siphon-chambers and gate-houses. A total of seventy buildings for this and other purposes along the aqueduct will be required.

The Ashokan reservoir (Ashokan is an Indian name meaning "place of fish") will be situated about fourteen miles west of the Hudson at Kingston, eighty-six miles in air line from New York, and will center about the hamlet of Brown's

Station on the Ulster & Delaware Railroad. It will be formed by a chain of masonry and earth dams having a combined length of over five miles. Another dam about half a mile long will divide the reservoir into two basins. It will be

chain of dams. Nearly a mile long on top, it has a maximum height above its foundation of 240 feet. Its central portion is being built of solid masonry, with a top length of 1000 feet, minimum top width of twenty-three feet, and a maximum



TYPICAL SECTION OF DIKE OF THE OLIVE BRIDGE DAM AND BEAVERKILL DIKES

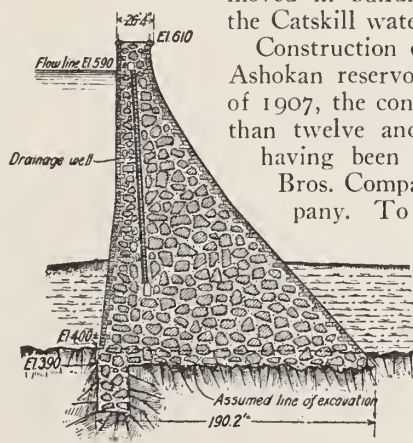
twelve and a half miles long, and the average width will be a mile. When the reservoir is full, its water surface will be 590 feet above tide; it will contain 128,000 million gallons, sufficient to cover Manhattan Island to an average depth of twenty-eight feet; 190 feet will be the maximum depth of water behind the dams, and fifty feet the average throughout the reservoir. With a shore-line of forty miles, it will have a water area of 12.8 square miles, and a nearly equal additional area of land has been taken to protect the margins. Approximately forty miles of new highway and thirteen miles of new railroad will have to be built. A concrete arch bridge at the dividing dam will afford connection between the northern and southern sides of the reservoir. Seven villages and many scattered dwellings and other buildings now dotting the valley will have to be razed. From forty small cemeteries all the bodies in 2500 graves must be removed. All trees and brush will be cut and taken away or burned. The landscape will be changed, but, guarded by the somber mountains, Ashokan Lake will add to the attractiveness of the scenery.

Olive Bridge dam is the greatest of the

width at the bottom of 190 feet. This portion of the dam closes the main gorge of the Esopus. Concrete core walls are being built in the earth dams. These earth dams, or dikes, are thirty-four feet wide on top, and have flat slopes, so that their thickness at the bottom is great, reaching a maximum of 800 feet in the earth portion of Olive Bridge dam. If all the earth, rock, and masonry to be handled in constructing Ashokan reservoir were to be put in one heap, they would form a pyramid having a base a quarter mile square and of an equal altitude. The great pyramid of Cheops, in Egypt, was originally 756 feet square at its base and 481 feet high. Its volume, therefore, is only one eighth that of the material to be moved in building this one reservoir of the Catskill water-works.

Construction of the main dams of the Ashokan reservoir was begun in the fall of 1907, the contract, amounting to more than twelve and a half million dollars, having been awarded to MacArthur Bros. Company and Winston & Company. To provide for the thousands

of laborers, many of whom have families, a great camp or temporary town has been built close to the scene of operations. This town has hundreds of houses, schools, a bank, a church, a hospital, a water-supply system, a sewerage system with a disposal plant, a great



MAXIMUM MASONRY SECTION OF THE OLIVE BRIDGE DAM

From the lowest foundation to the parapet this dam is 240 feet high.

general store, a large bakery, a mess-hall, an office building, blacksmith and machine shops, streets, park, band-stand, bath-houses, ice-house, fire department, police, electric lights, and telephones. Great quarries and sand-pits are being developed to furnish materials for the dams, and ten miles of standard-gage railway, not to mention several miles of narrow-gage, have been laid, connecting with the Ulster & Delaware main line. For seven busy years Camp City will flourish, and then it will be obliterated as completely as possible.

Near historic White Plains, thirty miles north of the New York City Hall, the valleys of the Bronx River and Rye ponds afford opportunity, by constructing one large dam, to form a reservoir of great capacity, approximately 40,000 million gallons, with its water surface 355 feet above tide. Its watershed is insignificant, but in it can be kept, relatively near the place of consumption, a water reserve sufficient to insure against the distressing results of accident to the aqueduct northward. Indeed, if necessary, that part of the aqueduct could be out of service for several weeks for inspection or repairs. Hence it also virtually safeguards the continuity of the flow from the Ashokan reservoir almost as well as if a duplicate aqueduct for these seventy miles had been built at much greater expense. To be sure, a second aqueduct will be needed in the distant future, but the reservoir will continue to perform this function of insurance toward the two. From Kensico reservoir, also, in the future, additional aqueducts and pipes can be led in various directions, to distribute water to different parts of the vast district which, in all probability, will ultimately be dependent upon it.

Kensico dam will be of massive masonry, 1830 feet long, rising 150 feet above the ground and nearly 300 feet above its deepest foundation in the ledge rock underlying the valley. Conspicuously in view from the four-track suburban line of the Harlem Division of the New York Central Railroad, it will be the greatest monument to the city's enterprise of all

the Catskill water-works structures. Ten years or more will be required for its building.

Just north of the city line, in Yonkers, on a large, flat-topped hill, will be built Hill View reservoir,¹ an equalizing reservoir of approximately 900 million gallons capacity, to regulate automatically the differences between the steady flow in the aqueduct from Kensico reservoir and the fluctuating consumption in the city. This reservoir will be made by digging to an average depth of about twenty-five feet (maximum forty-four feet) over a large part of the hilltop, and using the earth thus obtained to build the sides of the reservoir higher. Its water surface will be 295 feet above tide, about 3000 feet long, and 1500 feet wide, and the water will be thirty-six and one half feet deep. A great concrete wall will divide the reservoir into two basins, and in this wall will be formed a by-pass aqueduct, so that water can flow to the city without entering the reservoir, whenever it may be necessary to clean or repair the reservoir. The reservoir will be lined with concrete and stone paving. There will also be a by-pass around Kensico reservoir. From the paths on top of the embankment of Hill View reservoir magnificent views will be had of New York, the adjoining towns, the Hudson with its Palisades, and the blue waters of Long Island Sound.

From Hill View reservoir an extension of the Catskill aqueduct will deliver the water into the distribution pipe systems in the streets of the five boroughs of Greater New York. The busy, congested streets, already underlaid with subways, water and gas pipes, sewers, electric conduits, and other structures, and bordered by tall buildings having one or more stories underground, cannot well accommodate the great number of large pipes that would be necessary to bring Catskill Mountain water from Hill View to the consumers. Furthermore, the annoyances and dangers incident to digging so many big trenches and laying the pipes in the streets would be quite intolerable. If this pipe-laying could be done quickly, the bother might be endured; but it would unavoid-

¹ London dedicated in the spring of 1909 Honor Oak reservoir, a covered masonry reservoir 824 by 587 feet, occupying, with its embankments, fourteen and a quarter acres. Hill View reservoir will be 3000 feet long and

1500 feet wide, and will occupy, with its embankments, 163 acres.

Ultimately Hill View reservoir will have a concrete, groined-arch roof, supported by pillars of concrete.



COMPLETING THE ARCH OF A SECTION OF CUT-AND-COVER
AQUEDUCT BY DEPOSITING CONCRETE ON MOLDS

Earth will be piled above the concrete and sodded.

ably spread over several years. Indeed, it might be said to be perennial, when repairs and replacements are taken into the reckoning, and a main distribution system of great pipes would be costly. Hence it is deemed wise to avoid as far as practicable the use of steel or iron pipes for the extension of the Catskill aqueduct for delivering water into the city.

Beneath the borough of the Bronx, Manhattan Island, and the edge of Long Island there is solid rock. Therefore a way of escape from many of the pipe troubles appears. Starting from Hill View reservoir, a great tunnel, like those under Ron-

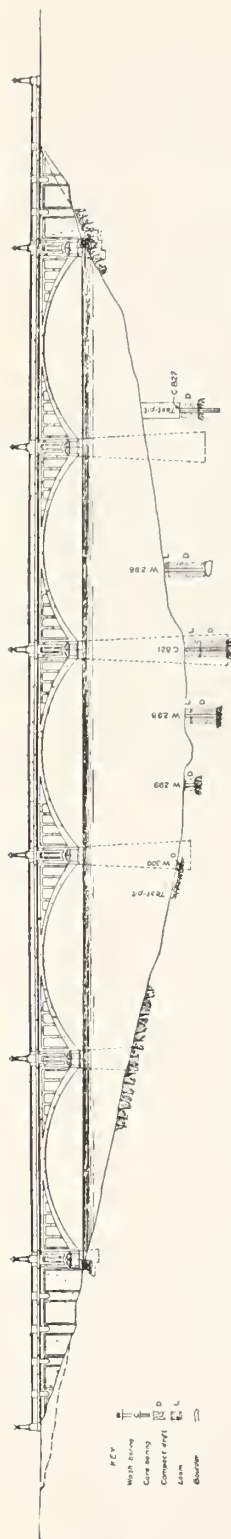
dout and Wallkill valleys, is to be driven deep into the rock, hundreds of feet below the street surface, and lined with concrete. Thus, disturbance of the streets will be avoided, and a permanent conduit will be secured. Shafts through

which tunneling operations are to be conducted will be spaced from 3000 to 5000 feet apart at points where little inconvenience will be caused. After construction, these shafts will be the connections between the tunnel and the main pipes of the street distribution system. This tunnel will pass beneath the Harlem and East rivers, but the crossing of the Narrows



SECTION OF CUT-AND-COVER AQUEDUCT
NEAR PEEKSKILL

This section was built in accordance with the drawing shown on page 712.



ELEVATION OF THE CONCRETE BRIDGE DESIGNED TO CARRY THE STATE ROAD ACROSS ONE BRANCH OF THE ENLARGED KENSICO RESERVOIR

to Staten Island will be made by heavy pipes, because the rock there is at too great a depth, and the quantity of water too small, to make a tunnel worth while. As a matter of precaution, two parallel pipes will be laid beneath the water some distance apart, and a reservoir to contain a reserve store of water will be built on high land on the island.

The fountains of Versailles are famous, and thousands make pilgrimages to see them in their beautiful settings when the water is turned on. Two fountains of far greater volume—scores of times as great—will be incidental features of the Catskill water-works. At times water in reservoirs, as in natural ponds, becomes impregnated with unpleasant tastes and odors, due mostly to very small organisms which, in a favorable combination of conditions, develop in unusual numbers. Although not deleterious, or not seriously so, the products of these organisms are disagreeable. Aeration has been proved by experience and experiment to be an efficacious and inexpensive means for removing these tastes and odors, and the most convenient form of aeration for the present purpose has been found to be nozzles of a simple design arranged as fountain-jets. Of these great aeration fountains, one will be built where the water is drawn from Ashokan reservoir and the other at Kensico reservoir. In each fountain there will be upward of 2000 jets in symmetrical groups within a basin 500 feet long by 250 feet wide. By using different combinations of these nozzle groups, various quantities of water, up to the full capacity of the aqueduct, can be aerated. With appropriate landscape settings, these gigantic fountains will be also a lasting source of enjoyment.

In order further to safeguard and improve the quality of the water, filtration is to be provided, and northwest of White Plains a site has been selected for a great sand-filter plant which will be of about twice the capacity of the largest plant now in existence.

When all the works are completed, the Catskill water-supply will be one of the safest in the world. Its gathering-grounds are topographically and geologically of unusual excellence and are sparsely populated. Wide marginal strips of forest and meadow will protect each impounding reservoir. These great artificial lakes will afford long storage for the gathered waters, giving opportunity for the beneficial action of sun, wind, and sedimentation. By these various means pollution will largely be prevented, and objectionable bacteria, tastes, and odors will be almost wholly removed or destroyed.

Goethe once wrote, "Dem Menschen ist ein Mensch noch immer lieber als ein Engel."¹ And so perchance the reader may be possessed of sufficient human interest to inquire by what marshaling of men's brains and brawn these great works are to be wrought. By appointment of Mayor George B. McClellan, under special legislation, John A. Bense, a civil engineer, Charles N. Chadwick, a business man, and Charles A. Shaw, formerly president of the Hanover Fire Insurance Company, constitute the Board of Water Supply of the City of New York. They were chosen from lists of three names presented respectively by the Chamber of Commerce, the

¹To mankind men are always dearer than angels.



VIEW OF THE SPILLWAY AND DAM OF THE PRESENT KENSICO RESERVOIR

In shadowy outline the proposed new dam has been drawn on the photograph. It will be on the average 400 feet north of the old dam and its parapet will stand as here shown 125 feet above the water-level seen in the photograph, a greater height of dam (about 175 feet) extending beneath this water-level. Steps will ascend both hillsides to the west. The present State road is shown in the foreground.

Manufacturers' Association of New York, and the Board of Fire Underwriters. Mr. Bensel is president of the board, and succeeded Mr. J. Edward Simmons, who resigned in January, 1908, and is now president of the Chamber of Commerce.

Two bureaus comprise the board's forces. In the Administration Bureau are the secretary, auditor, chief clerk, and purchasing agent, adjuster of claims, and chief of aqueduct patrolmen, each having a necessary corps of assistants, totaling for the bureau about 125 persons. Consulting Engineer John R. Freeman is the engineer adviser of the commissioners. At the head of the Engineering Bureau is Chief Engineer J. Waldo Smith. On his staff of consultants are Professor William H. Burr, Mr. Frederic P. Stearns, Allen Hazen, George W. Fuller, and a few other engineers and scientists of national and international reputation. Mr. Charles L. Harrison is Deputy Chief Engineer. Because of the geographical extent and the magnitude of

the works, the Engineering Bureau has been organized in four departments: the Headquarters Department, with Alfred D. Flinn, Department Engineer, has charge of preparing designs and specifications for the dams, aqueducts, and other structures; executive and civil-service matters, inspection of manufactured materials for construction, and preparation of real-estate maps and documents for all the departments, and in addition surveys and construction within the city limits. The Reservoir Department, with Carleton E. Davis at its head, is charged with all surveys and construction on the watersheds. Its chief work at present is the Ashokan reservoir, with its great dams and the headworks of the Catskill aqueduct. From the headworks to the divide of the Croton watershed sixty miles of Catskill aqueduct is under the care of the Northern Aqueduct Department, Robert Ridgway, Department Engineer, to whom falls the Hudson River crossing and the great

siphons under the Rondout, Wallkill, and Moodna valleys. The remainder of Catskill aqueduct, with Kensico and Hill View reservoirs and the filters, falls to the Southern Aqueduct Department, with Merritt H. Smith as Department Engineer. The departments are divided into three or more divisions, which in turn are subdivided into several sections. Including engineers, inspectors, stenographers, clerks, laborers, and other assistants, the Engineering Bureau contains nearly 1000 persons.

For purposes of construction, the work of building the reservoirs and aqueducts has been divided into many contracts, ranging in expenditure involved from a few tens of thousands of dollars to several millions. In the busiest summer, when the majority of these contracts will be simultaneously in progress, the contractors' employees will probably reach a total of 15,000, and the expenditure will approximate \$2,000,000 per month. This autumn of 1909 will doubtless see 10,000 men at work, for by October the major contracts for the aqueduct will have been let, excepting part of the line between Kensico and Hill View reservoirs. Hill View reservoir will probably also be under contract; the main dams of the Ashokan reservoir are already in progress. A re-estimate of the cost of the Catskill project made since many of the large contracts were awarded shows that the original estimate of 1905 was sufficient, an unusual and gratifying fact in engineering projects of great magnitude.

Readers distant from New York may ask: "Why go so far for water? Why not take water from the Hudson, a relatively short distance above the city, just as many inland communities do from rivers on which they are situated?" Simply because the Hudson is a tidal estuary as far as Troy, and if sufficient water to supply even half the needs of New York were withdrawn in extremely dry seasons, the river water would be too brackish for domestic consumption as far north as ten or fifteen miles above Poughkeepsie, or eighty miles in air line from the City Hall, New York. It is only six miles farther to the head of the Catskill aqueduct. To be certain of maintaining an adequate fresh-water flow, large compensating reservoirs would have to be built on the headwaters of the river in the Adirondack Mountains to store the surplus waters of

wet seasons for discharge into the upper tributaries of the river at a suitable rate in dry seasons. Furthermore, much unpurified sewage enters the river above any point at which the city's works could be located. Since the water would be taken at tide-level, it would have to be raised several hundred feet by powerful pumps in order to deliver it in the city under suitable pressure. Hence, to obtain Hudson water, purify it, and convey it to the city, extensive and very costly works would be necessary; and when all was done, the supply would be inferior in quality. It has been said that the nineteenth century discovered dirt—that is to say, the true nature of filth and its relation to human health. In the light of that discovery, communities are learning to prefer clean water, if such is available. Consequently the Board of Water Supply, with the concurrence of other city authorities and the approval of the State Water Supply Commission, very sensibly concluded that it was more economical and prudent to take some of the Hudson water from some of the lower tributaries in the Catskill Mountains before it became contaminated, and at an elevation from which it could flow by gravity to the city and be delivered at a level 165 feet above that at which the Croton water is delivered.

An abundance of clear, soft, pure, and wholesome water is the most fundamentally essential commodity for any great community. New York City has expended to date for the construction of existing water-works, exclusive of interest and maintenance, about \$137,000,000, not taking into account the investments of private water companies, several of which still purvey to portions of some boroughs. Recent projects for additional supplies from the Catskill Mountains and Suffolk County will involve during the next half-century the expenditure of about \$225,000,000, and will increase the safely available daily supply to two and a half times that now available, and provide bountifully for the city's needs as far in the future as can be reasonably foreseen. And the Croton, Ridgewood, Catskill, and Suffolk County systems will be permanent, even if long continuance of the city's remarkable growth should in the distant future lead to a demand for water in excess of the combined capacities of these sources.

New York's present population is 4,500,000, and her daily consumption of water for all purposes from works owned by the city is, as I have said, 125 gallons per person. At this rate, a year's supply would be a lake twenty miles long, three miles wide, and having an average depth of twenty-five feet. The ordinary summer flow of the Niagara River over the American Falls is now about 8000 million gallons daily, which is only fifteen times the stream consumed in New York. It must be remembered that Yonkers, Mount Vernon, New Rochelle, and even more distant suburbs may be added to the metropolis, or at least to the metropolitan water district, in the not far distant future, making yet greater demands upon the water-works systems built by the city, and many local sources of supply will have to be abandoned because of insufficiency and pollution. With all these vast figures representing demand and expenditure, it is comforting to find by computation that the average cost of all water for domestic, public, and manufacturing uses each day to each person will be less than one cent, including maintenance, interest on capital investment, and sinking fund.

Of the great works for collecting and conveying the Catskill Mountain water, many of the most difficult and interesting parts will be totally hidden from view after completion. Indeed, of the Catskill aqueduct scarcely anything will be visible except the long, neatly graded embank-

ments over the cut-and-cover portions and the occasional buildings housing the gates and other devices for controlling and measuring the water. Most conspicuous will be the great reservoirs, with their huge dams of masonry and earth. Many of these visible structures will be comparatively inaccessible. It is fitting that these conspicuous structures should be made esthetically pleasing, not by elaborate and expensive ornamentation, but by simple and dignified treatment. Here the dominant civil engineer will be aided and guided by the architect and the landscape engineer.

Subterranean river! The mere name has always held a mysterious and romantic fascination. A reversed subterranean river is what the Board of Water Supply is creating. Instead of beginning with tiny streams in dark fissures of the rock or some surface rivulets which sink out of sight, this river will start at its large end from the Ashokan reservoir, an extensive artificial lake, and flow for scores of miles without change of volume, coming to the light only in the beautiful Kensico Lake and Hill View reservoir's huge bowl, whence it will ramify through the hundreds of miles of tunnels and pipes beneath the city streets, issuing finally through faucets and hydrants in thousands of jets to serve those who have bidden it flow thus in constraint. Several years of very active work must, however, elapse before Esopus water will reach the city.





Half-tone plate engraved by H. Davidson

HENRY L. HIGGINSON. FROM THE BUST BY BELA L. PRATT
MADE FOR SYMPHONY HALL, BOSTON

ROUGH · PLACES · IN · GOTHAM



HALF-HOUR
SKETCHES IN
NEW YORK CITY

• BY •

Vernon Howe Bailey,



Drawn by Vernon Howe Bailey

I. "CHERRY HILL" FROM FRANKLIN SQUARE

The view is north, through an opening in the approach to the Brooklyn Bridge.



Drawn by Vernon Howe Bailey

II. IN "HELL'S KITCHEN," ON THE WEST SIDE
A district which has been prominent in newspaper annals.



Drawn by Vernon Howe Bailey

III "SAN JUAN HILL," ON THE MIDDLE WEST SIDE
A typical negro tenement district.



Drawn by Vernon Howe Bailey

IV. IN THE "GAS HOUSE DISTRICT," ON THE EAST SIDE
In former days frequently the scene of election-day turbulence.

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The Lane that Has No Turning

BY SIMEON STRUNSKY



I n the world as known to Baedeker there are only two streets that can compare with Fifth Avenue, and these are both on Manhattan Island. From its source in the asphalt bottoms of Washington Square to where it loses itself in the coal-middens of the Harlem River at 143d Street, the Avenue runs a course of almost exactly seven miles. It runs true to the North Star, without a turn, with only a single pause, grimly bent on its business, in a way calculated to make the dowager metropolises of Europe lift their eyebrows and say, "How American!" Its rivals are Eighth Avenue, a half-mile to the west, which may be some nine hundred feet longer; and, still farther west, Tenth, or Amsterdam, Avenue, the titan of all urban highways, nine miles up hill and down as determined in the primeval blue-print shaped by the city fathers some time about the year 1800. All three streets have character as well as length, but Fifth Avenue alone has significance.

I know that this will seem very crude to the esthetic snobs who are always deploring the checker-board pattern of Manhattan Island, with avenues that run up and down, and streets that sprint from river to river. They call the pattern monotonous because they see it only on the map. I have never found it depressing to stand at the corner of Fifth Avenue and Twenty-third Street

and look south a mile, and north to the horizon, and east and west toward the two rivers, myself the center of a circle with a million people in it. Criticism of our gridiron city is only a way people have of echoing the English, who like to have their streets like their education bills and franchise laws—never going straight at anything, but full of kinks and knots and *cul de sacs*. I recall the hero of one recent English novel who walks out of a house in low spirits, and looks up and down "the dreary length of Gower Street," an interminable street perhaps ten blocks long by our measurements. I was struck by Gower Street because it was there I used to go some years ago in London just for the purpose of looking up and down, when my eyes were aching for as much as a fifth of a mile of clear roadway without running into a warehouse of the period of George II., or a pile of "mansions," or anything but a bit of the sky at the end of a street. When the English find themselves somehow or other tricked into tolerating a road more than a quarter of a mile long they refuse to acknowledge it, but give different names to every other block, calling it Oxford Street and High Holborn, or Edgeware Road and Maida Vale; and if they can put a church in the middle of the road, so much the better. When the English have a street twenty feet wide and five hundred feet long they call it Great Queen Street, and when they have a street that suggests Fifth Avenue they make the best

of it by calling it Park Lane. When the English— But why stir up ancient wrongs?

What I meant to say was that the city fathers when they endowed us with our geometrical streets and avenues were wiser than their modern critics, because they built according to their material and their needs. They had on their hands an island constructed by the original architect something on the model of Abraham Lincoln. They accordingly fitted the island with a suit of democratic clothes, built for use and comfort, instead of cluttering it up with periwig circles and diagonal avenue sashes and frilled terraces. They recognized that the shortest way from the tip to the root of this tongue of land we call Manhattan was by straight lines. So they acted not only in conformity with the material at hand, but with the national spirit, which cuts straight across things. And because they were faithful to their material and their native spirit they were better artists than the men who would have us tack from Park Row to Harlem because that's the way it's done in London and Florence.

Destiny and democracy have thus combined to make Fifth Avenue the longest and straightest of the world's great boulevards. The same forces have made it the most representative of avenues. That is not the way we usually think of Fifth Avenue. Tradition still describes it as a show avenue, an avenue for driving distinguished visitors upon, an avenue to muck-rake in the sociological novels and to photograph on Easter Sunday, an avenue to which lead all the roads from Pittsburg and Cripple Creek and Butte, Montana. Fifth Avenue may be that, but as a simple geometrical fact it is a great deal more. That is why I have insisted upon its full seven miles. In its entire length Fifth Avenue is not one thing, but everything—a symbol, a compendium, a cross-section of the national life. It has wealth well seasoned, and wealth new and flamboyant. It has patrician houses, parvenu houses, boarding-houses, and tenements. It has all the races: early Knickerbocker and late Italian close together at its source; Jewish garment-workers along its lower course; cos-

mopolite in the hotels and shops farther north; the old stock again from Forty-second Street to Carnegie Hill; a newer Ghetto from Ninety-Sixth to 125th Street; a sprinkling of the old immigration for perhaps a quarter of a mile; once more a mixture of the newer crowds; ending all in the negro tenements near the Harlem.

So Fifth Avenue is a study in progressive sociology with mansions, factories, shops, hotels, shops again, mansions again, churches, libraries, museums, vacant lots, hospitals, parks, and slums. Its range of natural scenery is unrivaled. It has flatlands, lakes, and a very respectable tree-clad mountain. It has wild and domesticated animals; in cages, to be sure, but still they are there. Obviously a street like that cannot be called aristocratic. It is quite the other thing. If it falls short of the representative democratic ideal, it is only in the matter of moving-picture theaters. I expect not to be believed when I say that for the first five and a quarter miles of its course Fifth Avenue is without a photo-play theater. There is none between Washington Square and 106th Street. In the last mile and a half the deficiency is nearly made up, but not quite. Still, the forces of progress are at work and presumably will not be denied.

Washington Square is in itself the city reduced to the microscopic scale of an acre and a half. The old New York and the new face each other across less than a furlong of concrete and foliage. Years ago the south front of the square lost caste and went into the hands of the *table d'hôte* and the Italian dealer in old metal. Except for the obscured beauties of Victorian lintel and fanlight it was a slum. Of late there has been a counter immigration. Studios have evicted the unclean shops and eating-houses, and the accumulated grime of the years has made way for large north lights. To-day art on Washington Square South is prosperous. At one end the long row of studio dwellings is flanked by a gay church in yellow brick with a campanile, the juxtaposition of religion and art being quite accidental. At the other end Macdougall Street sets out to run south through the heart of the down-town negro quarter. The east side



A PATRICIAN ATMOSPHERE STILL LINGERS ABOUT WASHINGTON SQUARE

of the square is dominated by the dull gray mass of the New York University professional schools, and just around the corner there is a celluloid-factory; so much for learning and industry. Across the square, on the west, sheltered behind fronts of brownstone lodging-houses, is a little of everything—a little of literature and journalism, a bit of music and the theater, magazine illustration, social service, and something of the I. W. W. For Washington Square West is the frontier of the physical and spiritual region that goes by the name of Greenwich Village.

The people in the studios on the south side of the square have for business purposes the large north lights. For inspiration they have the mellow warmth of the red-brick homes of the patricians filtered through the tender green of the trees in April. These fronts of red brick

facing south have been drinking in the sun for generations, taking it into the pores of the clay, gulping it in through the spacious windows which we have apparently forgotten how to build. How to be placid and radiant at the same time is a problem which the specialists of the beauty columns in the newspapers are continually pondering. Washington Square North has the secret. It has poise and it has the joy of life. Presumably the secret lies in the consciousness of an assured position. Onyx and marble carvings are for the upstart apartment-house of twelve stories. The low façades on Washington Square North have grace with simplicity, warmth with reserve. For sheer loveliness there is nothing in the city to compare with that row of red-brick burgher houses in spring unless it be the glimpse of Morningside Park and Cathedral Heights

from the south, which one gets on a morning of sunshine from the curve of the "L" at 110th Street.

The artists and radical folk of Washington Square and its environs are an ungrateful and an illogical tribe; either that or they are insincere. When they are not painting or writing or agitating, they know nothing better than to belittle the past whose beauty they are eager enough to inherit. They inhabit the spacious, high-ceilinged rooms which earlier generations have built, and say all manner of evil concerning the builders. Was it indeed a crabbed life that people lived in New York when these houses of red brick with fanlights, lintels, noble windows and balconies were being created? It is a puzzle. These houses bespeak in everything a robust simplicity, a love for plain outlines, and the primitive shades—red, white, black. Suburban civilization to-day builds outside for gables and dormer windows, and inside for ingle corners, heavy panelings in the dim religious light of stained glass, low ceilings from which depend massive rafters; the rafters hang and do not support, and threaten to give way and precipitate their medieval weight on the heads of people reading Walt Whitman. How, in fair consistency, can Walt Whitman be read by the fitful murk of an Oriental lantern? What sense is there in demanding light and air in our social relations while we banish them from our homes? And on the other hand, how is it conceivable that men once upon a time could have staggered about in dim moralities, crabbed beliefs, and atrophied sympathies, and yet build cheery houses of red brick with great windows? It is a puzzle.

The impress of Washington Square is upon Fifth Avenue for nearly, but not quite, the first half-mile; say as far as Thirteenth Street, where the Georgian red brick gives way suddenly to granite and grime. Scarcely two minutes' walk north of the square is the loveliest house on the Avenue—red brick, of course, but the glow of the sun-warmed clay radiant through a veiling of naked vine as I recall it in early spring. The note of the Avenue is struck at the very beginning, a note of gaiety four miles long, maintained through miles of shops and hotels

and tremendously expensive homes, except for a hideous interval of smudgy commerce that runs from Fourteenth Street to Madison Square. It is a state-ly gaiety sounding the decorous measure of the minuet. The patricians are nearly all gone from the red-brick dwellings on lower Fifth Avenue, but they have left their impress on the furnished-room houses. Down the side-streets, east and west, the note of placid ease is continued in red brick and wrought-iron balconies, boarding-houses nearly all, but it will be some years before their present occupation molds the outer face of the neighborhood. Before that note is quite gone we shall be compelled to tear down the miniature cathedral at Eleventh Street which goes by the name of First Presbyterian Church, and erect in its place a twelve-story "loft" in shiny stucco which will be a murky horror.

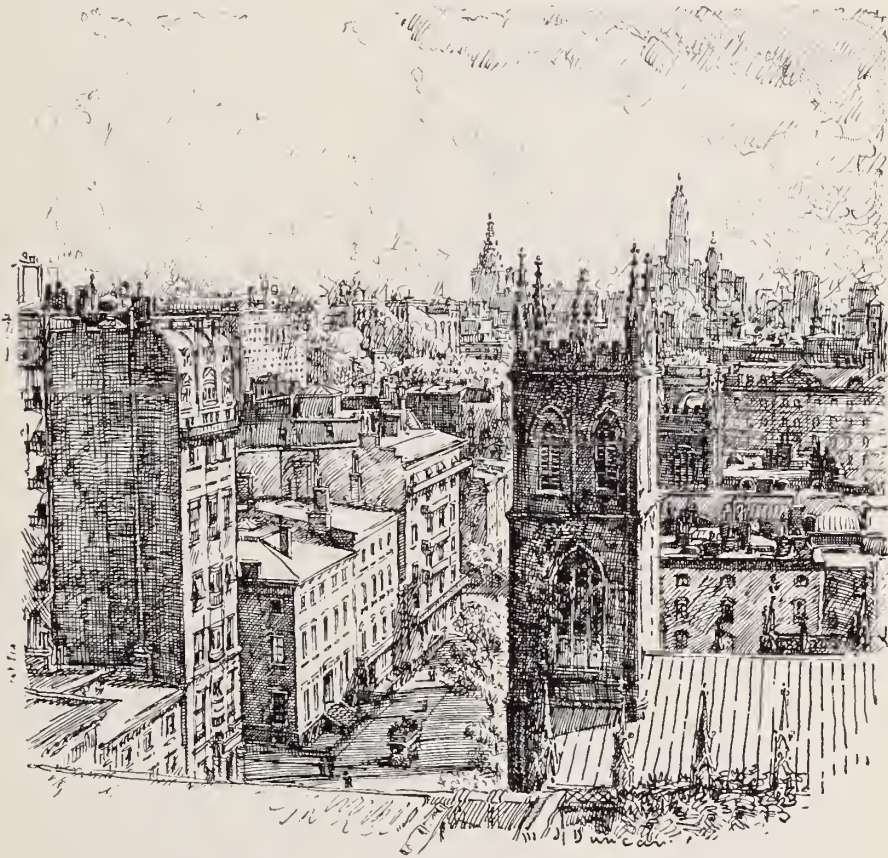
At Thirteenth Street old Fifth Avenue disappears so abruptly as to hurt. The sky-line on either side heaves up from three stories to ten or more. The prevailing colors are grime and gold, the dirty gray of limestone, granite, and stucco, and the gold of ready-made-clothing signs flaunted across fifty feet of front. This is the Fifth Avenue of the "loft" factories, brought here in spite of enormous rents, by the magic of the name upon department-store proprietors in Houston, Texas. The city has risen in protest against the menace to Fifth Avenue. In the name of desecrated beauty, do you imagine? In the name of imperiled ground rents. For it would seem that there is a law of nature which so operates that when a commercial building reaches a certain height the loss of rent income from the stores on the ground-floor exceeds the gain from all the "lofts" above the line where the law begins to apply, some eighty feet above the curb. The result is a strong stirring of civic conscience among the real-estate organizations, which proceed to organize banquets in behalf of the City Beautiful. Fifth Avenue is now by way of being saved for the shoppers from the noon-hour crowd of alien factory operatives. And yet the mere fact that such a crusade should be needed shows how absurd it is to think of Fifth Avenue as a preserve of the wealthy. Noon of

a warm day finds Fifth Avenue between Fourteenth Street and Twenty-third filled with larger, more vehement, more eloquent, gesticulating crowds than the Agora at Athens or the Forum ever saw except on special occasions.

At Madison Square the Avenue plunges into a final orgy of sky-scraping. The place reeks with white-marble palaces, battlements, pinnacles, and barracks. Diana of the Garden on her golden globe defends her ancient primacy against the enormous hulk of the Flatiron sweeping north like the prow of a superhyperdreadnought to which a considerate tobacco company has added the semblance of a battering-ram in the shape of an extension show-window; against the glistening shaft of the Metropolitan; against sixteen-story Baby-

lonian temples devoted to cloaks and suits. Diana on her tower has vanished from the novels of New York life. Young men from the country, who come up for the conquest of New York and formulate their siege plan on the benches in Madison Square, no longer look up at Diana and say *A nous* as they used to do a few years ago. That is, they no longer do so in the novels, because the novelists assume that no modern hero would look at Diana when there is a tower near by higher by several hundred feet. In real life I imagine the watchers on the benches, especially if they watch through the night, still find in Diana a peace which neither the Flatiron nor the Metropolitan can give them.

From this monstrous spree of stone and brick the Avenue emerges like a



FIFTH AVENUE BELOW FOURTEENTH STREET

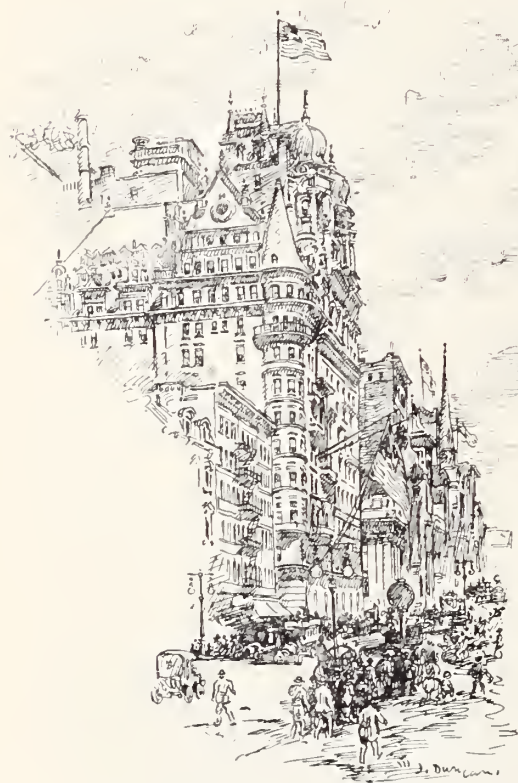
seasoned rounder from his morning's cold shower, brisk and gay enough, but with a temporary gratification in the simpler life. From Madison Square to the Waldorf is the region of the older shops, not department stores, presided over not by captains of industry, but by "tradesmen." The roof-line comes down

ladies, one of whom holds an open parasol. Ladies who drive up Fifth Avenue in open carriages to-day always wear black, as if in mourning for an extinct state of civilization.

Two or three minutes north of Madison Square the pavement of the Avenue grows thick with traffic. From the top of a motor-'bus at this point the traveler looking north has before him a sight of which I do not know the like. An inky torrent one hundred feet wide pours down the slope of Murray Hill, to break at the foot of the Waldorf-Astoria. A flood of blackened lava fills the street from curb to curb so that the very surface of the Avenue seems to heave and swell. It is the sixfold stream of motor-cars and cabs, creeping in two directions, but from a distance melting into one vast undulatory movement. At the behest of an invisible policeman the flood slackens, stops, and surges forward again, carrying everything before it, one imagines. Tossing on the surface of the stream, swaying from side to side, the green motor-'buses breast the current, mount the hill, and drop over the crest of Fortieth Street out of sight.

From the top of the green omnibuses I have looked down, I suppose, on some

of the very best people in town without their knowing it or my knowing it. The 'bus is no longer a novelty in New York, but it is still an experience. People, for example, do not read newspapers on the top of an omnibus, and men passengers have a habit of taking off their hats for the air which suggests self-improvement rather than rapid transit. The 'bus must be good for one's health, but it works for self-consciousness. People visibly begin to brace themselves for the descent of the spiral staircase several blocks before their destination, and that



AT THIRTY-FOURTH STREET THE TRAFFIC THICKENS

to an easy height, and the sky follows. The windows are smart. There are apoplectic limousines in front of the book-shops, the neckwear-shops, the milliners', the boot-makers', and the silver-candlestick makers'. The limousines do not have it quite their own way. The past drives by in a victoria with plum-colored upholstery. Away from Fifth Avenue this form of vehicle is encountered only in the quaint advertising cuts of great factory buildings facing on streets traversed by bob-tailed cars with prancing horses, and victorias with two

can hardly be good for the nerves. But my chief objection to the motor-'bus is on moral grounds. I don't know how it is with others, but in my own case I find that the secure possession of a railing seat on top of the 'bus is conducive to a cold superciliousness. I look down on the crowds of waiting shoppers at the curb and I feel that the best they can hope for is an inside seat on a plane quite below my own. They wait patiently at the curb as the heavy cars lumber past. They signal hopefully, and make their way out into the torrent of traffic, only to be waved back by the conductor. The sense of security, the warm glow that arises from a vested interest, possesses me. Sometimes I am sorry for the disappointed shoppers that line the sidewalks in my wake, but there is always a touch of malice. At such moments I can understand Nero looking down from his imperial tribune in the amphitheater.

The black tide of the Avenue runs on between banks of white. The cheerful note struck at the outlet of Madison Square by shops in white paint and cream, interrupted for a moment by the red mass of the Waldorf, is resumed in the white and cream of the great stores, in the gleaming walls and terraces of the Public Library, and continues white, with occasional outcroppings of the Early Brownstone and the Later Red Brick, to the end. The color key anticipated by the whitewashed Brevoort at Eighth Street and definitely struck by the Metropolitan tower is thereupon maintained for a distance of four miles. But if the color-scheme is uniform, the forms are infinite. As a rule our public and commercial architecture runs to two types, the architecture that soars and the architecture that squats. Gothic and Greek, tower and temple, all or nothing, forty-five stories for sewing-

machines and insurance, and three stories for banks and fine arts. Fifth Avenue has the two extremes in the Metropolitan tower and the spires of St. Patrick, and in the recumbent acres of the Public Library and the Metropolitan Museum. But it has also the intermediate types dictated by utility—the solid



APPROACHING THE PUBLIC LIBRARY AND FORTY-SECOND STREET

masses of great palatial stores of wide renown, the Genoese palace that goes by the name of University Club, and the complete merging of the two ideals—or rather, of all ideals—in the vast bulk of the Plaza, which is Gothic in height, Babylonian in depth, Greek in color, and therefore typically American.

The outcome of the struggle between trade and residence for the possession of Fifth Avenue below Central Park has not been in doubt for some years. Trade has won, but the last shots have not

been fired. The art dealers, the real-estate men, and the milliners have reached the Park. A few families that are old enough and rich enough to touch commerce without being defiled are barricaded for a last stand. But what chance have such snipers, even if it is for the defense of hearth and home? The artillery of heavy rents will be trained against their walls and the shopping crowds in solid formation will advance to the assault. The old residences will go, and after them the clubs. The hotels will probably hold out for years to come. Longest of all will stand the churches—for several generations, perhaps.

In the evolution of New York's thoroughfares it is the churches that remain as monuments of the continuous struggle for survival, whether it is a struggle between residential district and business district, or between the private mansion and the apartment-house, or between different populations. The physiognomy of neighborhoods changes, but the churches remain in good number, imbedded in different strata—in shops, clubs, apartment-houses, tenements—for the social geologist to use as material in reconstruction of the past. The his-

tory of Fifth Avenue as far north as Central Park must be largely written on the basis of such documents in brick and stone as the First Presbyterian at Eleventh Street, the Marble Collegiate at Twenty-ninth Street, the Brick Presbyterian with its absurd sugar-loaf steeple of pinkish stone all covered with carbuncles at Thirty-seventh Street. Old families go and leave their churches behind them as filaments with the past, as memorials, or as missions for the encroaching heathen. More than that, they build churches in neighborhoods that are manifestly doomed to trade or cheap residence. The faith of the medieval cathedral builders who wrought for eternity is reflected in the faith that has just erected Dr. Parkhurst's church in the heart of the garment trade, or St. Thomas's, that striking example of a church that set out to be a cathedral and lost heart before its spires were done, in a region of shops.

The churches on Fifth Avenue confirm its representative character as the show-window of the city, a window that exhibits the entire life of the city—factories, shops, offices, hotels, clubs, its luxuries and simplicities—yes, even the longing



CENTRAL PARK—WHERE THE FIFTH AVENUE OF TRADITION BEGINS

for the primitive finds expression on Fifth Avenue in the white-front tea-rooms with chintz curtains and home-made pastry, quite like the simple joys of rural life the court of Versailles used to delight in. In this national show-window, religion is strongly on exhibition, though the furnaces and warehouses of the faith, speaking in all reverence, may be situated far from Fifth Avenue. The great population mass of whose creed St. Patrick's is the most notable symbol in stone, for example, lies fairly remote, east of Third Avenue and west of Eighth Avenue. The great bulk of the Jewish population lies five miles to the south and two miles to the north from the green-and-gold dome of the Beth-el Temple. But St. Patrick's and Beth-el are testimony to the important place that the faiths which they symbolize have won in the sun. Even religion does not disdain the *cachet* of Fifth Avenue.

For a mile and a half north of Fifty-ninth Street stretches the Fifth Avenue of tradition. It is Millionaire's Row, looking out on the green of Central Park and its great simplicities—the lake where children ride in swan-boats, the menagerie, the asphalt paths covered with a heavy traffic of baby-carts and children on donkey-back, the pond where other children sail their miniature craft. The Park, I imagine, has sensibly affected the architecture of the homes across the way. Their prevalent white and cream blends with the green of the foliage. The street is gay, for the most part in a lordly way, with fine windows framed in rich lace carving, but now and then positively coquettish in pink and white and gold. Of the pain and pleasure that architects experience when they walk up Fifth Avenue I can say little. Except for a survival here and there of the Early Brownstone period, and one or

two examples of the Late Grotesque, the street pleases me. Connoisseurs, I suppose, deplore its lack of uniformity. The roof-line is jagged compared with the Avenue de Bois de Boulogne, and the façades do not melt into one another. But here is the difficulty in all our striving for higher things in art in this coun-



THE SPIRES OF ST. PATRICK'S LIFT
ABOVE A VAST AND MOVING THROG

try. If the Pittsburg rich give their architects a free hand, we accuse them of buying their esthetic ideals wholesale. When they build according to their own ideas we call them barbarians. On the one hand we expect them to express their own personality, and on the other we expect them to express themselves beautifully. If here or there on Fifth Avenue one discerns under a single roof specimens of the Assyrian, the French Renaissance, and the California Mission, the thing has its significance. Why not give the architect of this amazing mess

the credit for doing what Sargent does—reveal the soul of the inhabitant through its tenement of granite, marble, and green slate?

At any rate, the way to perfect beauty on the Avenue is not through flat, long, low Roman structures in marble. I don't know how Mr. Frick's new Roman

gestion at least of a home. Otherwise I submit that there is danger of the megaphone men on the sight-seeing wagons pointing out the Frick mansion as the Metropolitan Museum of Art, and the Art Museum as the Frick mansion. Not that it would make any appreciable difference to the sight-seers, but a dangerous architectural tradi-

tion might be perpetuated in Kansas. After all, the problem of combining the museum and the hearth has been solved in Europe by the simple method of building a residence and then transforming it through the accumulation of years into a museum, and not the other way around.

Just a mile separates Mr. Frick's Roman basilica at Seventieth Street from the fine ducal palace erected some years ago by his former partner, Mr. Carnegie, at Ninetieth Street. Not content with the splendid front yard of eight hundred acres supplied free of cost by the city, both men have built themselves gardens of their own. Mr. Frick's lawn with its low marble balustrade is intended as a foreground. Mr. Carnegie's finished garden with its high iron fence aims at privacy. Lawn seed and flower-beds must come high on the Avenue, but I presume it

was the desire to fix permanently the residential character of the vicinage that prompted what would be elsewhere on the Avenue regarded as waste of space. Gardens on Fifth Avenue create a real-estate proposition before which the most ambitious milliner or jewelry-shop will hesitate for many years to come.

Business may be some time in forcing an entrance into Millionaires' Row, but one form of change is already at work to show that time will have its way with the proudest of residential neighborhoods. Exactly half-way between Mr. Frick and Mr. Carnegie stands the only apartment-house on Fifth Avenue, at



THE GREEN AND GOLD DOME OF BETH-EL TEMPLE

basilica on the site of the old Lenox Library measures up as an example of absolute architecture. I do not find it beautiful in itself, and it is absurd as a human habitation. After all, Alcibiades did not have lodgings in the Parthenon, and there is no reason why any one man, no matter how wealthy, should make his home in a structure obviously intended for the United States Supreme Court. I understand, of course, that the dwellings of the very rich are virtually restricted nowadays to a picture-gallery, a museum, and a swimming-tank, but it must be somebody's fault if with that there cannot be incorporated some sug-

Eighty-first Street. It faces the central pavilion of the Metropolitan Museum, thus presenting our favorite architectural combination of several hundred feet of masonry shooting up in the air right next door to several hundred feet of granite trailing close to the soil. If you laid this apartment-house on its side and stood the Metropolitan Museum on one end, the harmony would be precisely the same. Blank and ugly from the outside, I understand that within this structure, which the building laws of New York City describe as a tenement-house, there are ceilings from Venice, and oak paneling from the English counties, and suites of enormous numbers of rooms exactly described in the Sunday supplements. It is the entering wedge, the first point of infection. Other apartment-houses are in planning for Fifth Avenue. Five years from now will see cream and marble residences scrapped for twelve stories in blank terra-cotta, and Fifth Avenue's history will have to be written anew.

At Carnegie Hill is the climax. Three or four blocks beyond the hill the scattered pioneers of the northward migration of the rich rear their lonely roofs over vacant lots. Then comes an area of dreary board fences. On its own side of the Avenue the Park keeps bravely on. It can wait. But glancing east down the side-streets of the Avenue itself there is nothing. The view is of a hinterland of tenements, and instead of clean stretches of asphalt to Park Avenue, the pavement is alive with children. At 100th Street the Mount Sinai Hospital would seem to mark the ultimate limit of millionaire expansion. Beyond are more advertising fences. We must be content with the greenhouses in Central Park, the lovely rise of land to the Reservoir, and the waters of Harlem Mere, until we reach, once more on the east side of the Avenue, the first definite sign of a new civilization, the moving-



IN THE HEART OF THE HARLEM GHETTO

picture theater of which I spoke at the beginning.

Four blocks more and Central Park says farewell to Fifth Avenue and turns west. So do the green motor-buses. But the Avenue itself, five and a quarter miles from its source, has still some life in it. Without turning a hair, it runs on, looking to neither right nor left, through the heart of the great Harlem Ghetto, until at Mount Morris Park it runs its head slap into a castellated hillock that would be a very respectable height on the Rhine, the loftiest point in central Manhattan. At 124th Street the little park stops and the Avenue has recovered itself. For a quarter-mile or so it passes through the brownstone of the half-way-up middle classes, now giving way before the boarding-houses. Then comes half a mile of dingy tenements, with little of the lights and crowd and babel of the Ghetto below Mount Morris Park. And then, as Mr. Kipling might say, the Harlem River takes it.



Pennsylvania Station, New York. Thirty-third Street carriage driveway, looking east.

THE TERMINAL—THE GATE OF THE CITY

BY W. SYMMES RICHARDSON

IN this article a terminal is considered as not necessarily the end of a line, but as the distributing-point in any city of the first magnitude, and in this sense stations in such cities as Dresden and Cologne, Germany; Milan and Turin, Italy; Lyons, France; the proposed station at Cleveland, Ohio, and even the station at Albany, New York, are quite as effectively terminals from the passengers' point of view as any of those stations which form the ends of lines proper, as at Frankfort,

Germany; Berlin, Paris, London, Rome, the Grand Central Station in New York, and the stations in Chicago, Boston, etc. In fact, with the constant increase in the development of connecting lines, many stations which now have the stub-terminal plan are being changed into ones with facilities for handling through traffic, and it will undoubtedly be only a question of years before such stations as those in Boston, Broad Street, Philadelphia; Saint Paul, Minnesota; the Soo-Milwaukee station in Minneapolis, and many others, will be rearranged upon through traffic lines.



Pennsylvania Station, New York. The main waiting-room, the largest room of the kind in the world.

Where the terminal proper or end-of-the-line conditions prevail in the very largest cities of all, as London, Paris, Berlin, Vienna, New York, and Chicago, demands for the rapid interchange of traffic are developing connecting lines, both on the surface, overhead, and underground, thus bringing all the traffic of a great city into a ring, or endless chain. London has long had this arrangement in a crude form through its Metropolitan Line, so that it is possible for a passenger living in the suburbs to the south to buy tickets and label all luggage and to travel through on suburban trains to outside junction points on the trunk lines to the north, east, and west. In Paris this has been developed, but to a lesser extent, in the ring of tracks

outside the city, which permits the transfer of railway carriages and passengers from the north and from England to the lines to the south. In fact, tracks permitting such movements of railway cars exist in all our large cities, but in the United States the development has been practically limited to freight rather than to passenger traffic. Even in New York the growth of traffic demands is already suggesting the joining together of several terminals rather than any further increase in present individual developments, and it seems as though the union station would, in a certain sense, before long cease to exist.

In Europe the development of railway passenger travel has been in proportion

to the social developments of the country, and consequently comparatively slow as is inevitable in communities the life

that the terminal stations are aggregations of many small units rather than a large single development. Such stations as



Pennsylvania Station, New York. Another view of the main waiting-room, 315 feet long, 108 feet wide, 150 feet high.

of which has been forming for centuries. Accordingly, the types of stations which have been developed have in many cases followed the lines of least resistance, and we find, for instance, in London, England,

Paddington, Euston, Saint Pancras, Liverpool Street, and Charing Cross are in reality each a collection of several little stations operating more or less independently. The relative cheapness of labor

in Europe has also given strength to this tendency, and, similarly, we find that a great many of the English trains are merely the aggregations of several little trains, with baggage vans, restaurant cars, etc., directly adjacent to the passenger coaches. This system results in great freedom and facility of individual movement, a passenger arriving at a London terminal finding his luggage on the plat-

and the South Station in Boston, with twenty-eight, with ticket-offices, parcel-rooms, baggage-checking rooms, telegraph offices, etc., so widely separated from each other that a large amount of time is consumed and a great deal of distance traversed by an individual passenger before embarking on or arriving from a journey.

Even in our through trains this tendency toward centralization of operat-

ing management has been carried so far that it is not unusual for a passenger to be obliged to pass through ten or twelve Pullman sleeping-cars before reaching a dining-car, and where the number of passengers requires more than one dining-car in a single train, these cars are frequently attached together in one place rather than distributed at convenient points. The instances cited are, of course, extremes, and between lies every possible variation and gradation of operating efficiency and convenience. The ideal station will probably never be true to any one type, but like everything else in life which is effective, will result from a carefully balanced compromise of interests.

The chief lesson which we can learn from Europe in the operation of our great terminals lies in the constant effort to separate traffic along its logical lines, even at an increased expense of operation, as against the tendency in



Pennsylvania Station, New York. The columns on the Seventh Avenue front.

form almost adjacent, and, if coming from the Continent, customs examination service, cabs, express, etc., only a few steps away. Here in America, where the development of a new land has been very rapid, and operations frequently the result of individual minds in control of large interests, the result has inevitably been the opposite, until as an extreme contrast to what might be called the London village group stations we arrive at such large units as the Union Station at Saint Louis, with its thirty-two parallel stub tracks,

this country to mass all of the people together; for instance, those who are checking their luggage at one moment, quite irrespective of their destination, while at another moment the same set of people bound for different sections are again brought together for the purchase of tickets, etc. Contrast this with the ease with which a passenger can leave Charing Cross, London, for the Continent on a crowded Saturday afternoon. Arriving perhaps less than ten minutes before the time of the departure of the Continental



Pennsylvania Station, New York. General view, showing the east and north fronts, Seventh Avenue and Thirty-third Street

Express, with a cab full of luggage, the system of portage permits of that which is intended for the luggage van to be placed on one truck and that for the railway carriage on another. The truck for registered luggage will be wheeled over a weighing platform almost directly in front of the ticket-office, weight ascertained, charges paid, and tickets bought while the small luggage for the carriages proceeds on its way to the platform. There is no duplication of movement, no time lost, and the great crowd moves on without friction, unhindered, like a steady stream. The amount which is thus accomplished in a limited time, apparently without effort and without consciousness except to the acute observer, is really marvellous. Consider our Grand Central Station, for instance, on a hot afternoon in August—the hurry, the confusion, the tensely drawn faces, the imprecations, the

a passenger taking a train in several of the large stations in this country. In such a station as the South Station, in Boston, it is necessary for a person purchasing a ticket and checking baggage to walk approximately 1,100 feet from the main entrance before entering an express train, and in the Grand Central Station, in New York, about the same distance; in the new Chicago and Northwestern Station, in Chicago, about 940 feet plus a 20-foot stair climb; in the Union Station at Washington about 1,200 feet, and in the Pennsylvania Station at New York from 480 to 950 feet, according to the entrance used.

Passing now from general considerations, let us see how some of these operating theories are accomplished. In Europe the division into many classes is an assistance in the avoidance of confusion, which in this country can only exist in a modified form through the Pullman, or parlor-car traffic. The great

general distinction, however, which applies to practically all the prominent stations of Europe is the separation of the incoming and outgoing traffic, the "Arrivée" and "Départ" of France. This is apparently regarded as essential where traffic conditions permit, and is seldom departed from, and the saving in confusion is enormous. I have been told, although I have never verified the fact, that the suburban traffic out of Paris through Saint Lazare Station is



Pennsylvania Station, New York. The track platforms on a level with the floors of the cars.

failure of luggage to reach its train, and, even in the case of those who are foresighted and plan hours or days in advance, the absolute impersonal nature of the transaction by which luggage and passengers are so widely separated, that it is only by a miracle of management that they usually come together at the appointed time and place.

It might be of interest here to give some comparative figures of the approximate average distance required to be walked by

one of the largest in the world, yet to the casual observer the departure side of the station gives frequently an impression of almost emptiness.

In this station the separation of traffic is perhaps carried further than anywhere else, in that the arrival platforms lead not only to different, but to comparatively disconnected city streets from those of departure. Most of the other Paris stations are arranged on the same plan. Like all good things, however, such a system can



Pennsylvania Station, New York. A general view of the concourse and track platforms. Three levels are visible in this picture: the train level, the concourse from which passengers descend to trains, and the middle level reached by passengers leaving trains.

be overdone, and the writer distinctly remembers arriving in Brussels, Belgium, from Holland one evening and (desiring almost immediately to continue his journey toward France by a train leaving on an adjacent platform) being obliged to leave the station on the arrival side, pass completely around the building through the streets with much heavy luggage, re-enter on the departure side, and finally reach a train only a few feet away from the one which he had just left. In America this separation of arrival and departure traffic has until recently not been attempted, and the conditions of our train operations make it exceedingly difficult if not frequently altogether impracticable. In Europe the terminal track plans and platform areas, as well as station plans, are usually so ample that it is possible for the railway management definitely to arrange its train schedule for the arrival and departure of trains from special platforms throughout the day. In America, the

rapid increase in traffic and number of trains, together with the high price of land and congestion in our cities, has made definite prearrangement of the movement of trains exceedingly difficult, and, with the improvements in terminal signal towers and electric switchboards, the arrival and departure of trains is frequently automatically arranged at the last moment, a train being sent to any track which happens to be clear at that particular time.

The Pennsylvania Station, in New York City, is, so far as the writer knows, the first instance in America of any serious attempt at such a division of traffic, and there not, as in Europe, to different *sides* of the station, but to different *levels*. In this station, where all the tracks are below grade, stairways from different levels lead to each individual platform and the separation is arranged by means of these different stairways.

The modern terminal divides itself naturally into three classes of stations:



Orléans Station, Paris, as seen from the Seine.

(1) That in which all of the tracks come to an end or stub.

(2) That in which all of the tracks are through tracks, but in which the importance of the city requires practically terminal operation in the arrival and departure of trains.

(3) Those stations in which the tracks are partly stub and partly through.

These again subdivide themselves into three classes:

(a) Those in which the tracks are at grade.

(b) Those in which the tracks are elevated.

(c) Those in which the tracks are depressed.

Typical stub stations are the Broad Street Station at Philadelphia, the Gare de Lyon at Paris, and the stations at Frankfurt, Germany, and Rome, Italy. Typical through stations exist in Milan and Turin, Italy; Lyons, France; Cologne, Germany; Providence, Rhode Island; Cleveland, Ohio; New Haven, Connecticut; Waterbury, Connecticut, and at Albany, New York.

One of the best types of combination station is in Dresden, Germany, where the through tracks are elevated, and in Washington, D. C., where the through tracks are depressed and carried under the city through a tunnel. The Pennsylvania Station at Pittsburgh is also of this type.

Of terminal stations with depressed tracks, some stub and some through, the Orléans Station, in Paris, was the first noteworthy example. It was fol-



Saint Pancras Station, London.



Orléans Station, Paris, showing depressed tracks and track platforms on a level with the floors of the cars.

lowed some years later by the Pennsylvania Station, in New York, which, with the completion of the New York Connecting Railway, will be operated as a through station from New England points to the South, and which depends for its effectiveness of operation and train capacity on its through facilities by which all terminal trains, as far as passenger traffic is concerned, are carried under the East River through to Long Island to extensive yards for switching, cleaning, etc.

The relation of a terminal station to the street plan of a large city is also of great importance, not only from the practical, but also from the æsthetic point of view. In Europe, the terminal stations have been placed with due reference to the principal thoroughfares, thus insuring ease of access, and the station buildings themselves have almost always been regarded as of semi-public importance, and attractively placed, facing large squares and surrounded by important

streets and boulevards. Much money is spent on the exterior design of these buildings, which have been regarded as monumental gateways of approach quite as much as points of distribution of traffic. It is only in very recent years that this idea has taken hold in America, many of our stations being located in out-of-the-way back streets, and more with reference to convenient freight terminal facilities than for easy access for passengers. Broad Street Station, Philadelphia, has been until recently the most noteworthy instance in this country of the attempt of a large



Eastern Station, Paris, at the end of the Boulevard Strasbourg.



The New Leipzig Station — To be opened in 1913.

railroad to bring its passengers into the important part of a city. This development is perhaps all the more striking because of the fact that Philadelphia is geographically a through point rather than a terminal, and the logical place for a station is at West Philadelphia.

In spite of the frequently heard modern cry that a building should exclusively ex-

press its uses, and that in consequence a station should typify the movement of large crowds and the power of steam and motion, many of the finest stations in the world to-day stand more for the expression of the majesty of a great city and a welcoming portal where at last one has come to rest, in pleasant surroundings, after a tedious journey.

One of the most charming railway stations in existence, in a small way, is that in Genoa, Italy, the façade of which is hardly more than a triumphal archway and portico on the beautiful little Piazza Acquaverde.

In Milan, Rome, Frankfort, Dresden, Paris—in fact, almost everywhere in continental Europe—the stations are pleasingly located and designed. In Paris the introduction of electricity and depressed tracks and smokeless tunnels has made possible the beautiful Gare d'Or-



Dresden Station.

léans, situated on a quay of the Seine, directly opposite the historic Louvre—in some respects the best railway entrance to any city yet achieved. Here in America attempts are being made, and the new

cent and by the incongruity of the magnificent marble Capitol on its hill frowning upon the smoky freight-yards beneath.

In Waterbury, Connecticut, a similar movement is in progress, the new station



The New Leipzig Station. Main waiting-room and ticket-offices.

station at Providence, Rhode Island, is worthy of mention, in spite of its many defects, as representing the recognition and birth of an idea, although greatly marred by the absolute neglect of any beauty of expression in the ingenious and otherwise effective trolley track arrangement adja-

there facing a considerable area of condemned land which is to be parked; and the new Grand Central Station, in New York, will owe its interest more to its relation to the adjacent streets and buildings than to the excellence of its individual plan.

In Omaha, Nebraska, the Burlington



Frankfort Station, Germany.

Railway has built a small terminal with a classical colonnaded portico, suggestive of a noble gate, but also unfortunately marred, as in Providence, by the purely utilitarian character of the adjacent track, street, and viaduct arrangement.

In Dayton, Ohio, the Union Station has a court-yard and portico which is worthy of mention, and in Cleveland, Ohio, there is a general plan for city development which is perhaps the most comprehensive and successful of any yet attempted in America, and if carried out along the lines contemplated will provide a station which will be worthy of any city.

As has already been stated, the Orléans Station, in Paris, and the Pennsylvania Station, in New York, are to-day the latest expressions in the terminal transit problem, practically all other terminal stations being relatively simple in arrangement and obvious in design. A more detailed description of these types is therefore appropriate, and the Pennsylvania Station is selected in this article as including all of the characteristic features of the Orléans Station and others besides.

Any building which is successfully designed and worthy of note should express as far as possible, and in an attractive and beautiful manner, its use in its external appearance, and, architecturally, an ideal station would be a building of monumental and beautiful character, forming a suitable gateway to a large city, and at the same time suggesting the idea of transportation and traffic. In the Pennsylvania Station, in New York City, the

problem involved, as in the Orléans Station, in Paris, was unusual, for the tracks in both cases were situated far below the street (in the case of the Pennsylvania Station, over fifty feet), and it was, therefore, not possible to adopt any of the types of station buildings familiar in modern architecture. The exposed train-shed, with its large, semicircular ends of glass, has become during the last century a form recognized by the layman as a railway type, and such features at the ends of the avenues of our modern cities suggest a great terminal even to a stranger when seen for the first time. Of such a character are the Gare de l'Est, the Gare Montparnasse, and the Gare du Nord, in



Frankfort Station. The waiting-room.

Paris, the stations at Frankfort and Dresden, and, in fact, most of the principal stations of continental Europe, as well as the splendid train-shed of the Pennsylvania Railroad Company in Jersey City, New Jersey.

While the track conditions above referred to made the problem one of especial difficulty from the point of view of securing an adequate architectural expression, from the stand-point of railway operation

may possibly be somewhat over-ornate for the average Anglo-Saxon taste, when seen from across the Seine, and particularly at night, it is not only singularly appropriate and expressive of its use, but gives an impression of real beauty which it is a pleasure to remember. In the Pennsylvania Station, in New York, the areas involved were considerably greater and the tracks were so far below the level of the street that any external expression was regarded



Frankfort Station. The train-shed.

the plan is ideal, as the station becomes practically a monumental bridge over the tracks, with entrances and exits on the main axes and on all four sides of the building at both street and subway levels. In this respect the building is unique among the railway stations of the world, affording the maximum amount of entrance and exit facilities possible.

The Orléans Station, in Paris, is not a very large station, and with the tracks only a slight distance below the level of the street, the great row of arches of the concourse filled with glass, together with the glass ends of the main roof, are unusually successful in their expression of architectural design; and while the building

as peculiarly difficult of attainment, if not altogether impracticable, and, moreover, the conditions of the plan required that main entrances of the magnitude of streets should lead from all points of the exterior to a central distributing-point or waiting-room. A simple, direct arch effect, as in the Orléans Station, in Paris, was obviously impossible, and, instead, a colonnade of many porticos was created around the entire exterior. The walls of the central area were made as high as possible to form a background to the external colonnades, and were treated with large, semicircular openings to give as distinctive a railway expression as was possible considering the limitations of



Lyons Station, Paris.

the problem. The style of architecture for a building of such importance and magnitude was carefully considered, and for inspiration the great buildings of ancient Rome were studied, and in particular such buildings as the baths of Caracalla, of Titus, and of Diocletian, and the Basilica of Constantine, which are the greatest examples in architectural history of large, roofed-in areas adapted to assemblages of people. Moreover, the conditions of modern American life, in which undertakings of great magnitude and scale are carried through, involving interests in all parts of the world, are more nearly akin to the life of the Roman Empire than that of any other known civilization. It seemed, therefore, fitting and appropriate in every way that the type of architecture adopted should be a development from Roman models, and while the building is of necessity, on account of the requirements of its uses, different from any building known to have been previously

built, its inspiration can be directly traced to the great buildings of the Roman Empire.

A distinctive feature of this station is the inclined driveways by which passengers are carried under cover to the level directly above the tracks. These driveways are of considerable height and as wide as ordinary city streets, the entrances being through great porticos between the columns of which the carriages pass in the same way as in the Brandenburg Gate,

in Berlin, through which a great part of the traffic enters that city.

In the modern terminal are to be found practically all the attendant conveniences of travel, not only the familiar ticket-offices, baggage-rooms, telephone and telegraph offices, news-stands, restaurant, and barber shop, but shops in which can be purchased drugs, books, and many of the other necessities of life. In the Pennsylvania Station, in New York City, the main foot entrance is in the centre of the Seventh Avenue front, opposite Thirty-second



Genoa Station, Italy. The façade and Piazza Acquaverde.

Street, and consists of an arcade of shops somewhat similar in scale and idea to the famous arcades in Milan and Naples, Italy, where can be purchased practically everything from a box of candy to a Persian rug. This arcade is also interesting as being one of the means by which the public is unconsciously led to the lower levels with as few steps as practicable, for here not only the floor slopes, but the

tage in a station with tracks below grade, as practically eight feet of vertical stairs (four up and four down) are thereby eliminated and the rapid handling of large crowds is greatly facilitated.

In each new station the attendant conveniences of the modern terminal continue to multiply, and the Northwestern Station, in Chicago, is equipped not only with private baths and dressing-rooms



Genoa Station. General view.

walls and cornices as well, there not being a right angle in the entire structure. The general waiting-room of this great station is worthy of mention, it being probably the largest and most monumental single room in the world to-day. It is 315 feet in length, 108 feet wide, and 150 feet high, comparable in dimensions to the nave of Saint Peter's Cathedral, in Rome, and about 15 feet wider. In this station there has also been adopted, for the first time by any trunk line in this country, a high platform level with the floor of the cars. This platform is frequent in continental Europe and practically universal in England, and it is of particular advan-

open for the use of passengers by the payment of a nominal fee, but with a full suite of hospital rooms as well, with nurses and attendants and physicians and surgeons in ready call. This is a particularly useful and attractive feature in such a city as Chicago, where there is much through travel and transfer of passengers from one station to another, frequently with waits of many hours between trains; and it is thus possible for an invalid arriving, for instance, in the early afternoon from New York and leaving for California in the evening to be well cared for without the discomfort and annoyance of going to a hospital or hotel.

It is in America that the luxury of modern travel has made the greatest advances, and it has been merely the outcome of our hurried national growth that the development of individual conveniences has dominated the larger questions; but with the expansion of this country to a world power, with international relations of magnitude has come a similar expansion in our internal relations and a demand for logical development along the broadest lines,

with collectivism and not individualism as the dominant key-note. The widespread interest and general study in city planning is but one of the many instances of this advanced point of view, and in our latest modern terminals we see only the beginnings of a movement by which all communities of a continent will not only be developed to their highest perfection, but will be linked together in the most effective and comprehensive manner possible.



Union Station, Washington, D. C., larger than any other building in Washington except the Capitol.

THE PROBLEM OF THE MODERN TERMINAL

BY SAMUEL O. DUNN

THE railway terminal is the gate-way of the modern city. No walls now make the people enter and depart through certain portals. But the compulsion of modern conditions of living and transportation is as effective as was that of ancient walls. Constantly there come and go through some gate-way terminals armies of peace exceeding in a day most of the great armies of war, equalling in a week the inhabitants of great metropolises, rivalling in a year the population

of great nations. No other structures serve the convenience of such numbers. Rising to the needs of these multitudes, the engineers and architects of American railways are dotting the country with terminals surpassing in size, in cost, in the comforts they afford, in monumental beauty, any others in the world.

Viewed casually, these great gate-ways may seem to mean no more than other large structures. Considered with penetrating and reflecting eye, they are seen



Union Station, Washington, D. C. The Concourse, area 97,500 square feet, said to be the largest room of any kind in the world; designed to meet the requirements of the crowd every four years.

to be the resultants, the steel and stone personifications, of some of the most characteristic and important tendencies and conditions of our country and time. They bespeak the increasing of engineering skill. They express the progress of architectural taste. Their size and capacity reflect the wonderful growth of great cities and of travel. The elegance of their manifold conveniences mirrors the same luxury, and even extravagance, which caused an advance of one thousand two hundred per cent in eight years in the American demand for automobiles. They declare the rise of civic spirit. They tell of the increase of the influence of the opinion of the public over the great quasi-public corporations that serve the public; for it is as much in response to the demands of public sentiment as of business that splendid structures such as those of the Pennsylvania Railroad and the New York Central in New York City, and the Chicago and North Western in Chicago, and the Union terminals at Washington and Kansas City, have

risen, or are rising, and that many other stations, smaller, but equally adapted to the needs of their communities, have been recently, or are being, built.

In Chicago, just west of the river, between Madison and Adams Streets, stands the old Union Station, used by five of the leading railways of the East and West. Within a stone's throw, at the corner of Madison and Canal, is the new terminal of the Chicago and North Western. More than adequate when it was finished some thirty years ago, deemed then a good type of terminal, but low, dingy, crowded according to our modern standards, the old brick Union Station presents a striking contrast to the stone and marble structure of the North Western. Nowhere else, by buildings serving so closely together the same purpose, are the old and new in terminal architecture, and the material and æsthetic tendencies causing the old to give place to new, so well exemplified.

The contrast will not remain for long. The old station is marked for the executioner. And so it is all over the coun-

try. The old Grand Central Station in New York is gone and a new one is rising. New stations are planned for Cleveland, Cincinnati, Minneapolis. A new one has just been opened at Baltimore. The present Union Station in Kansas City will soon disappear, followed by the Dearborn and Park Row stations in Chicago, the Union Station in Saint Paul, and numerous other old terminals. They served their purpose in their day. But their day is almost done.

Other tendencies that have been working would have made the older and cruder terminals give place to newer and finer. But the tendency that is exercising the most influence is the growth of cities. Twenty years ago there were only twenty-six cities in the United States with a population of a hundred thousand souls; to-day there are fifty. Twenty years ago the united population of the cities now the twenty largest in the United States was eight millions; to-day it is sixteen millions. Two decades ago only three cities had over five hundred thousand people; now eight have. Three decades ago only

one had more than one million, now there is one city with a million and a half, one with two and a quarter millions, and one with five millions. Modern transportation enables people to work in the heart of New York, Boston, or Chicago and have their homes miles away, and around the cities there have clustered many suburbs with large aggregate populations. Because of the centripetal and centrifugal forces of business and of pleasure that the growth of these great centres has set in motion, there daily pour into and out of their business districts, their suburbs and the surrounding territory, hundreds of thousands of people. Many of those from the residence districts, most of those from the suburbs, all from other cities, and from the towns and farms, pass through the large terminals.

The new North Western terminal handles fifty-one thousand people a day, the equivalent in forty-four days of the whole population of Chicago. Over sixty-six thousand use daily the New York Central's Grand Central terminal in New York, at which rate every inhabitant of



Union Station, Washington, D. C. The waiting-room.



Burlington Route Station, Omaha, Nebraska.

the metropolis would pass through it in seventy-five days. About eighty thousand daily use the Pennsylvania's Broad Street station in Philadelphia, the equivalent in nineteen days of the city's whole population. The number using every day the New York, New Haven and Hartford's South Station in Boston is over one hundred thousand. At that rate the entire population of Boston would pass through it in a week, the whole dense population of New England in two months, and more than one-third of all the people of the United States in a year. Greater even than this, perhaps, is the number handled by the Southern Pacific at its unique Oakland Pier terminal at San Francisco. To deal with the traffic at the North Western terminal requires three hundred and fifteen trains a day; to handle that at the Grand Central terminal, four hundred and thirteen a day; to handle that at the Broad Street station, five hundred and forty-three a day. To handle the traffic at the Boston South Station requires seven hundred and seventy-nine trains every twenty-four hours—an average of more than one every two minutes. During the busiest hour—from five to six o'clock P. M.—eighty-three trains enter and leave the South Station, or one every

forty-three seconds. There leave and enter the Oakland Pier terminal of the Southern Pacific about one thousand two hundred trains a day, or not far from one every minute. The only terminal in the world with a business exceeding that of the largest in this country is the Gare Saint Lazare at Paris, where there are said to be handled forty-five million persons a year, or one hundred and twenty-three thousand a day.

Some terminals, such as the South Station at Boston, the Broad Street and the Philadelphia and Reading stations at Philadelphia, the North Western station at Chicago, and the Oakland Pier terminal of the Southern Pacific, have a business in which suburban traffic greatly preponderates. That of others, such as the union terminals at Saint Louis, Washington, Chicago, Kansas City, Saint Paul, Denver, is almost exclusively through business. The Illinois Central at Chicago handles its suburban business, amounting to about fifty thousand people a day, at three down-town stations located at intervals on the frontage of Lake Michigan, while it and its tenant lines deal with their through business at the Park Row station. Both the suburban and the through classes of traffic have been grow-



The new station at Waterbury, Connecticut

ing, throughout the country, at a rate defying the prescience of the most far-seeing, and defeating the prevision of the most resourceful railway managements.

Ten years ago when the New York Central rebuilt the Grand Central terminal, used by its lines and the New York, New Haven and Hartford, the increased facilities were expected to be enough for a quarter century. The old Grand Central Station already is gone. The traffic of the Pennsylvania's Broad Street station, at Philadelphia doubles in less than twenty years, and it may soon be given over entirely to suburban business. This has been about the rate of increase at other terminals handling a large suburban traffic. One of the greatest of almost exclusively through terminals is the Union Station at Saint Louis. It is owned by fifteen, and used by twenty-two, railroads—more than use any other terminal in the world; and daily there enter and leave it over three hundred through trains moving toward more different points of the compass than those using any

other terminal in this country. Opened seventeen years ago, after an outlay very large for that time, deemed adequate to the needs of an indefinite period, it was necessary, in less than eight years, to spend a million dollars on sweeping changes to enable it to cope with the traffic of the Louisiana Purchase Exposition. During the fair it handled as many as two hundred thousand people in a day. But, while with its massive granite head house it is still a notable type of modern terminal, it is becoming crowded, chiefly because of want of sufficient yard room for coach storage. The real estate for the yards was bought long ago; but the city has withheld the ordinances necessary to its use.

As fast as these increases in the traffic of large terminals have come, they are proceeding even more rapidly, and may go on yet more rapidly hereafter. The railways, in their new terminals, are trying to anticipate remote future demands, and are building them with more capacity than any terminals ever before possessed. The new North Western terminal at Chicago could handle five times as many people as now use it, or a quarter of a million a day; the capacities of the Grand Central and the Pennsylvania Railroad terminals in New York are yet larger; either of the three could, in a year, accommo-



The portico of the Union Station, Dayton, Ohio.



Drawn by Thornton Oakley.

South Station, Boston.

From five to six o'clock P. M. eighty-three trains enter and leave this station, and over one hundred thousand people use this station daily.

date the entire existing population of the United States.

Such impressive figures give some idea of the size and complexity of the engineering, architectural, operating, and financial problem the modern terminal presents. But it remains an inadequate idea until we consider some of the many conditions that must be dealt with in determining

terlocking plant to direct and control train movements. There must be yards for storing and cleaning coaches and for making up trains. There must be commissaries for stocking dining and buffet cars, and providing Pullmans with clean linen. There must be a round-house for making light repairs to locomotives, cleaning them, and getting them ready for their



Union Station, Baltimore.

the terminal's location, capacity, design, and methods of operation; and these are matters about which most of us never bother our busy heads.

Few of us have ever thought, for example, after, while hurrying to a train, we have blessed the convenience, or imprecated the inconvenience, of a station's location, of what had to be considered in deciding where it should be put. The choosing of the site for a terminal is a harder task than the choosing of the site for any other kind of a structure. For a terminal is more than a building. Most of us, when we speak of a terminal, mean the station building and perhaps, also, the train shed. But there must be also many approach tracks for the trains to enter on, to stand on while waiting, and to leave on. There must be a big in-

runs. There must be a power-house to furnish light and power for all the terminal machinery and buildings. There must be places for handling quantities of mail and express; usually at a large terminal there is a big post-office substation. In the Pennsylvania's New York terminal there are sixty-four buildings given solely to terminal uses. The station building, however handsome and imposing, contains but the dressing-rooms and wings of the theatre. The real stage for the drama of the terminal is out under the train shed and in the yards; and the real stage manager is not the brisk station-master in his neat uniform, but the train director in his shirt sleeves away out in the interlocking plant at the throat of the yard, ordering the never-ending manipulations of his many levers. The area

covered by the buildings, the interlocking plant, the yards of a modern terminal is from thirteen to thirty-five acres, and the new Grand Central terminal covers eighty acres, the biggest area occupied by any terminal in the world.

To find, in the congested part of a large city, in or near its business district, such an area suitable for any purpose would be hard; to buy it, very costly. The purpose of the terminal aggravates the problem. It must be readily accessible by operating tracks; and the topography of a city may make almost inaccessible by tracks a location otherwise most suitable for a terminal. Where a terminal may best be put also depends on the nature of its traffic. If this be chiefly suburban the terminal must be situated in or near the down-town business district; commuters object to paying more than one fare between business and home. If it handles through traffic almost exclusively, its patrons, laden with luggage, will come in street-cars or taxicabs, anyway, and it will do little harm if it is situated farther out. The railway station is becoming recognized as a public edifice, and, therefore, in some places its location is much influenced by the desire to give it a suitable place in city plans.

Its relation to intramural transportation is of moment. A station accessible from all parts of a city by street-car lines will best serve the public convenience; and if there be more than one terminal, a railway using a station thus accessible will have an advantage over those using others less favorably situated. In the city of London there are many terminals, some in the heart of the business district, some distant from it. But most of them are connected with each other and with various parts of the business and residence districts by the underground railway system encircling large portions of the city; and some of the trunk lines run trains over the tracks of this system. A number of the roads use several different terminals. In Paris and Berlin, the two great railway centres of the continent, arrangements more or less similar exist. Unfortunately, in the United States good relations between street-car systems and railway terminals are exceptional. Two of the best and most advantageously located terminals in the United States for the kind of business they chiefly handle—preponderately suburban—are those of the Pennsylvania Railroad and the Philadelphia & Reading in Philadelphia. Both are located in the down-town business



Providence, R. I., New York, New Haven and Hartford Railway Station.



Chicago and North Western Railway Station, Chicago.

Four hundred and fifty-five buildings were razed to make room for this terminal.

district; and both are readily accessible by intramural transportation lines; but unfortunately the very excellence of their location has the drawback that it gives little opportunity for expansion to care for a large and fast-growing business.

In topography, as in many ways, New York is unique among American cities. Bounded by the Harlem River, by a great harbor and by the North and East Rivers, streams broad, deep and really arms of the sea, Manhattan Island long was considered almost inaccessible by railway except by bridge over the Harlem. Over this stream the only railways for long entering the island—the New York Central and its tenant, the New York, New Haven and Hartford—reached the only terminal for long on the island, the Grand Central, on Forty-second Street.

The first Manhattan terminal was opened in 1832 at Centre Street, near the present City Hall, by the New York and Harlem road, now leased to the New York Central. Trains were run by steam as far south as Fourteenth Street and pulled from there by horses. A new station was

opened in 1857 where Madison Square Garden now stands. Fourteen years later the original Grand Central Station was opened on Forty-second Street. Between 1898 and 1900 it was enlarged; but it was soon inadequate; the discomfort and danger of running trains through the Park Avenue tunnel grew intolerable; and plans for rebuilding the terminal and electrifying south of the Harlem were well advanced when, in 1903, a State law required electrification and authorized the city to arrange for the use by the railway of the subsurface of streets near the station. All the subsequent extensive and expensive reconstruction operations, including electrification, the rearrangement, enlargement and rebuilding of yards and station, the erection of a large group of buildings on the right of way that are not to be used for transportation purposes, are really a single gigantic terminal improvement.

The new terminal will occupy the site of the old. There was no need for change. In the midst of the hotel district, verging on the theatre and shopping district,

but a step from Fifth Avenue, only a few blocks from Broadway, accessible from all parts of the city by subway and surface lines, the Grand Central terminal, for both suburban and through traffic, is one of the best located terminals in the world. While the old site will be used, striking, indeed, will be the transformation. Nowhere else are the wonders workable by railway electrification so exhibited. More space was needed. To get it the engineers within nine years removed one hundred and forty buildings and fifteen miles of pipes and sewers. But it was not necessary, as formerly, to keep open over trains a space to permit the escape of smoke, and the tracks and yards of the new terminal, roofed with steel and concrete, will be in a subway, over which will rise two large hotels, an opera house, several office buildings, clubs, and apartment houses. Down through them will run a broad, new avenue. Buildings on Park Avenue will be limited to six stories; others may rise to twenty stories; but along all will run a uniform cornice line, below which the same material will be used, thus creating a harmonious group. The busy activities of the new terminal will be, in effect, carried on in the basements of sky-scrapers. Unique among all the terminal developments of the world, this great improvement of the New York Central will cost one hundred and fifty million dollars; and yet the rentals from the buildings that are to be erected to utilize the air space over its tracks are expected to offset the heavy increase in fixed charges involved.

In 1896 the railways reaching the west bank of the Hudson River, opposite New York City, brought to their terminals there destined for New York City ninety-four million people. In 1906 the number had increased to one hundred and forty million people. And not one of them could the trains take into New York City. All had to transfer and be ferried

across to New York, which took twelve to twenty minutes when the weather was good and twice as long when it was bad, and even then only landed the passenger on the margin of the city. The possession by the New York Central lines of an admirably located terminal in the heart of Manhattan Island made their great rival, the Pennsylvania system, look with ever more and more longing eyes in that direction.



Chicago and North Western Railway Station, Chicago.
The vestibule.

The project of bridging the Hudson had long been mooted, but the railways ending on the Jersey shore could not be got to act together, and a franchise for a bridge for only one would not be given. Tunnelling also had been suggested, but Samuel Rea expressed the view of engineers when he said in his book, "The Railways Terminating in London," published in 1888: "The underlying strata of the North River will not permit the construction of a tunnel on admissible gradients for heavy traffic and for fast trains, which, of course, would be essential requisites." But the Pennsylvania acquired the Long Island Railroad. Brooklyn, the terminus of the Long Island, was a city of one and a half million souls that had never been tapped by a



Chicago and North Western Railway Station. The main waiting-room.

trunk line. Annually there crossed the East River between Manhattan Island and Long Island three hundred millions of persons, not including pedestrians. The extension of the Long Island Railroad from the East and of the Pennsylvania Railroad from the West into Manhattan would enable the Pennsylvania to land its passengers in New York, would enable the Long Island to share in the enormous traffic across the East River, and would also give the Pennsylvania a short and direct connection with the railways running up into densely populated New England. The Pennsylvania at last in 1902 decided single-handedly to plant a great electrified passenger terminal in the very heart of the up-town hotel, theatre, and shopping district of Manhattan. The impossibility of the engineers and engineering of yesterday is their achievement of to-day; it was also decided to secure entrances to the terminal for both the Pennsylvania and the Long Island by tunnelling under the North and East Rivers; and the man who, as vice-president of the Pennsylvania Railroad, was placed in

charge of the entire work and executed it, was that same Samuel Rea who had soberly written that tunnelling under the North River was not practicable! The Pennsylvania extension into New York ranks among the great engineering feats of all time. It is the greatest ever done to get a suitable location for a passenger terminal.

While the Pennsylvania has forced a way for its lines under two rivers, carried tunnels down as deep as ninety-seven feet below high-water-mark, and spent one hundred and fifteen million dollars to overcome the geographical disadvantage of having its terminal in Jersey City, the intramural transportation system of New York City has to the present denied it much of the benefit it expected from this great work of terminal relocation. The railway was justified in expecting the city immediately to build a subway to the main entrance of its new station on Seventh Avenue. This has not been done. It is still a considerable walk to the station from any elevated, surface, or subway line. But the Seventh Avenue



Chicago and North Western Railway Station. Lobby and ticket offices.

subway now appears assured. The subway station will be connected with the terminal on the underground levels, which will enable passengers arriving at the terminal to go up or down town without going up to the street level. This will make the use of the terminal convenient for both through and suburban passengers, and will doubtless cause a heavy increase in its business. This last year amounted to ten million passengers handled by one hundred and twenty thousand trains, or three hundred and thirty a day, while it has a capacity of one thousand two hundred trains a day.

As the architecture of the Union Terminal at Washington was designed to harmonize with that of the public buildings in the national capital, so its location was chosen mainly to fit it into a plan for the city's beautification. A commission of distinguished architects, including Daniel H. Burnham, Frederick Law Olmstead, Augustus Saint Gaudens, and Charles F. McKim, was employed by the government to visit European cities, make a complete study of the District of Columbia

and of the papers of Major L'Enfant, the French engineer who made the first plans of the city of Washington for President Washington, and then recommend a policy for city improvement. They reported that L'Enfant's original layout should be followed. To do this the Pennsylvania Railroad would have to abandon its station and tracks across the Mall. "The president of the Pennsylvania Railroad,

A. J. Cassatt," said Senator Benton McMillan on the floor of the United States Senate, "looked at the matter from the stand-point of an American citizen, saying that he appreciated the fact that if Congress intended to make the Mall what the founder intended it to be, no railroad should be allowed to cross it." Therefore, the Washington terminal, built by the Baltimore and Ohio and the Pennsylvania but used by all the lines entering the city, and exceeding in size all other Washington buildings, save the capitol itself, was built facing on the same plaza which is faced also from another direction by the capitol. Unfortunately, the same power



Chicago and North Western Railway Station. The train shed equipped with the latest methods of ventilation and light.

of government which influenced the location of the station has not caused a rearrangement of street-car lines to suit the convenience of the traveller.

The topography of Chicago, with its flat surface—like that of hardly any other American cities but Detroit and Buffalo—

gested down-town district, and on which the elevated railways radiating every way turn all their trains.

Frederic A. Delano, the public-spirited president of the Wabash Railroad, recognizing the impracticability of uniting in one terminal all the numerous roads



Chicago and North Western Railway Station. The train concourse.

makes it possible for railways to enter almost any place. The generosity of nature has been abused. The twenty-five trunk lines using the six passenger terminals, representing thirty systems spreading out like a fan, come in from every direction and have no harmonious relationships. Their two thousand six hundred miles of track within the city make a map of Chicago look like a railway yard. No system of intramural transportation connects the various stations. No train passes through Chicago. Passengers going through must transfer by bus, taxicab, or disconnected street-car lines. The most favorably situated terminal is the La Salle Street, owned by the New York Central Lines and the Chicago, Rock Island and Pacific. It is on the "Loop," which encircles the con-

annually carrying, perhaps, fifty million people in and out of Chicago, many of them through travellers, long advocated a plan for erecting a group of five or six large stations side by side on Twelfth Street. Five were to be just east of the Chicago River, the sixth just west across it. He would have brought the passenger trains in on elevated tracks, and used the space beneath, from Twelfth to Fourteenth Streets, and from State Street to the river, for handling baggage, express, mail, and less-than-carload freight. The Illinois Central would have continued to handle its suburban traffic through its existing down-town stations, and the North Western its suburban traffic through its Wells Street station.

This novel and ambitious project, of the

details of which space will not permit even a mention, was much discussed, but

congested and hemmed in by the Chicago River, by Wells and Kinzie Streets, went



New York and Harlem Station on site of Madison Square Garden, New York, opened in 1857.

The second station built by the company.



Grand Central Station, Forty-second Street, New York, opened in 1871.



Grand Central Station, Forty-second Street, New York, as enlarged in 1898-1900.

no steps were taken to carry it out. Meantime, the North Western, its old terminal

using the Union Station, another by those using the Dearborn Station, the

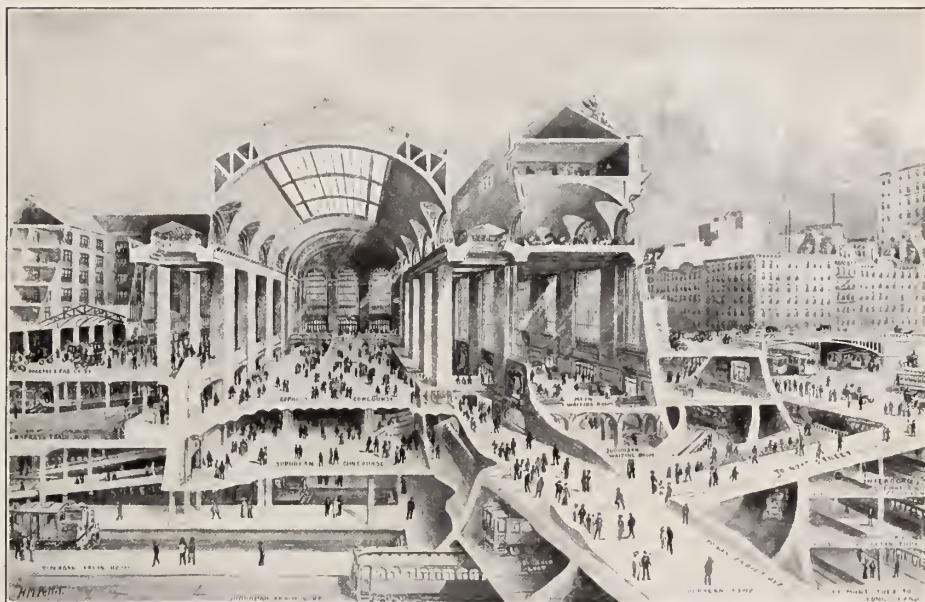
on with plans for the construction of a new one at a different location. One of the main conditions compelling relocation was that the throat of the old terminal was carried over the North branch of the Chicago River on a two-track bridge. The operation for years over this narrow bridge—often opened to let boats pass—of over three hundred trains a day, almost without accident, was one of the feats of modern railroading. The most available site for relocation was afforded by three blocks a short distance west of the river readily accessible from the "Loop" district. Here, fronting on Madison Street, the terminal was erected. Before construction could begin four hundred and fifty-five buildings had to be razed, of which sixty-six were four or more stories high; and fifteen thousand people had to find new places for homes or business. The acquisition of real estate cost eleven million five hundred and sixty thousand dollars out of the total terminal expenditure of twenty-three million seven hundred and fifty thousand dollars.

No less than three large passenger terminal projects are now planned in Chicago, one by the railways



The new Grand Central Station, Forty-second Street, New York, looking north.

The group of buildings above the track levels includes hotels, an opera house, office buildings, clubs and apartment houses.
The new Grand Central terminal covers seventy acres.



The new Grand Central Station, New York.

A drawing showing the various levels and ramps, looking east.

third by the Illinois Central, whose Park Row terminal is used by it and several tenant lines. Each would cost from thirty million dollars to fifty million dollars. It is possible only two will be carried through. The Illinois Central has arranged with

the lake, and erect in it a large and handsome building for the Field Museum, founded by the late Marshall Field, and now in the old Art Building of the World's Columbian Exposition, at Jackson Park. The Illinois Central will erect a new



The new Grand Central Station, New York. The express concourse.

terminal on Twelfth Street and Michigan Boulevard facing on Grant Park, and one or two other large buildings, all similar in architecture to the new Field Museum, with which they will form an imposing group. This scheme has the support of the Chicago Plan Commission. Its execution will be a long step toward carrying out the commission's plan for the creation of a "city beautiful," and it may lead to the roads now entering the Dearborn Station and the LaSalle Street Station going into the Illinois Central's

the Board of South Park Commissioners for an exchange in which it cedes to the commissioners its riparian rights to the shore of Lake Michigan and the site of its present Park Row Station, and receives in return a wider right-of-way below Twelfth Street. The South Park Commissioners will raze the Park Row Station, add its site to Grant Park, which lies directly on Lake Michigan, extend the park out into

station. This would make the Illinois Central's terminal—admirably located on beautiful Michigan Boulevard, which every one visits who visits Chicago, and but a short distance from the club, hotel, and theatre district—one of the greatest of terminals devoted almost solely to through passenger business. It would be used by fifteen railways, and into and out of it there would pass daily about

seven hundred through trains.

The new Union terminal in Chicago will doubtless be located near where the old one now stands, and is expected to be a fine station. The increase of the business at the old station, which is now badly over-crowded, illustrates the rapidity of the growth of the demands on modern terminals. It has always been used by the same roads—the two Pennsylvania Lines West of Pittsburg, the Burlington; the Chicago, Milwaukee & Saint Paul, and the Alton. It was opened in 1881, and in 1886 was being used by 125 trains daily. It is now used by 261 trains, and handles 45,000 to 50,000 passengers every twenty-four hours—a large traffic when it is considered that a great proportion of it is through business.



The new Grand Central Station, New York.
Office buildings on the Lexington
Avenue side.



The new Grand Central Station, New York, showing Fifth Street
between Lexington and Park Avenues.

The buildings are: at left, Adam's Express Company; centre, power station; and
at right is the Y. M. C. A. building.

Strikingly different from the topographical conditions at Chicago are those at cities such as Kansas City, Seattle, and Cincinnati. Situated at the confluence of the Missouri and Kaw Rivers, on hills rising sharply to great heights above the river valleys, Kansas City is accessible to railway tracks only through the valleys of the two large rivers, where the space for terminal yardage is limited, and along a little valley cutting the city east and west somewhat below the down-town district. The passenger business of the ten roads using the old Union Station in the "west bottoms" long since outgrew it. The site gave little chance for expansion. Far from the business district, subject to floods—one of which on a historic occasion filled the station with water almost to the ceiling—affording to the eye no prospect but that of a forbidding height to the east dotted with ragged little shanties, it was an undesirable location. Many trains have to enter and leave through a narrow throat to the north of the station, called the "goose neck," and there are chronic delays. The people of Kansas City began years ago to demand a new terminal. The railway managements agreed they ought to have it, and prepared to spend forty million dollars. But the demands of the city so far exceeded the inclinations of the railways that it took a seven years' wrangle to reach an agreement. It was long debated whether the new terminal should be



Grand Central Station, New York. Interlocking plant at the throat of the yard.

on the north side water frontage, where it would be accessible to the roads along the valley of the Missouri River, or near the site of the small Twenty-second and Grand Avenue Station, where it could be reached along the little valley cutting the city east and west. The latter, and much the better, although also much the more expensive, location was chosen. Situated between the down-town business district on the north and a large residence district on the south, it is readily reached by street-car from both directions. The railways are spending three hundred thousand dollars on a park facing it which passes to the city in perpetuity. As all the fourteen roads entering Kansas

City will use it, the new terminal will be as truly a union terminal as is that at Saint Louis.

Somewhat alike in their rugged topography, Kansas City and Seattle have railway situations very unlike. The Northern Pacific reached Puget Sound at an early day and acquired valuable property adjacent to the present business district of Seattle; and the King Street station, used by the Northern Pacific and the Great Northern, is easily reached by pedestrians from the business district and by street-car from the residence districts. When the Or-

egon-Washington Railroad and Navigation Company, a Harriman line, built to



Grand Central Station, New York. The real stage manager who orders the manipulation of the many levers of the interlocking plant.

Seattle, it had, for competitive reasons, to get a good location for its terminal, and, at large expense, it got it by buying land adjacent to the King Street station. To get a suitable location at Spokane, Wash., the Harriman lines bought the site of the city hall!

Unique in location, as well as in the number of trains using it, is the Oakland

connect, it is slowed down so that it will reach the pier just about when the next boat arrives. Thus, except in unusual circumstances, there is no accumulation of passengers on the pier. To tunnel under the bay into San Francisco is not considered feasible. But it is only a few years since tunnelling under the Hudson into New York was similarly regarded.



Excavating for the yard of the new Grand Central Station. Looking north from Forty-fifth Street, New York.

Pier terminal of the Southern Pacific at San Francisco. This road has a station in San Francisco for its coast division, but most of both its through and suburban business is handled on the Oakland Pier, running far out from Oakland into the Bay of San Francisco. On the pier are eight tracks, four for through and four for interurban electric service; and on and off it there run daily more than one thousand two hundred trains, exceeding the number using any other terminal in the country. Passengers pass between it and San Francisco on ferry-boats which leave every twenty minutes; the movements of the trains are largely governed by the movements of the boats; and if a through train runs behind so that it cannot make the boat with which it should

Beautiful, and in some cases monumental, as is the architecture of the modern terminal, even more characteristic is its provision for room, comfort, and safety. To accommodate the masses of people using big terminals without crowding and confusion, great spaces are required; and the main waiting-room of the Pennsylvania Station in New York is the largest room of its kind in the world. With an area of ninety-seven thousand five hundred square feet, the concourse of the Washington terminal is said to be the largest room devoted to any purpose in the world. The Washington terminal is the only one ever designed to meet the requirements of only one crowd every four years. Its regular business, although it is the portal of a city that is becoming the



Union Station of the Oregon Short Line, Salt Lake City, Utah.



Union Station, Salt Lake City, Utah. The waiting-room.



An architectural detail of the Oakland Station, California.

Mecca of America, is smaller than that of several other terminals; it was given its great capacity to enable it to care for the quadrennial multitudes that gather for the inauguration of the President of the United States. Special accommodations for royalty are common in European terminals. The Washington Station is the only one in this country having a special entrance and a "state suite," including a President's room, for the use of the President, foreign diplomats, and high officials, so that they may enter, wait, and depart without coming in contact with the general public.

In the North Western's terminal at Chicago there is a suburban concourse on the street level from which passengers may go upstairs directly to the train shed without passing through the main waiting-room and concourse, which are intended for through passengers, and which are located on the second floor level, and open directly to the train shed. In the Pennsylvania's New York terminal the segregation of different classes of passengers has been carried farther. The north side of the station is set apart for the suburban business of the Long Island Railroad; and in that portion devoted to the service of the Pennsylvania Railroad there is not only the main con-

course on the street level for the use of passengers entering, but also directly beneath it is a separate concourse for those leaving the station. The value of this arrangement, which prevents streams of passengers moving in opposite directions from colliding with and hindering each other will become more apparent as the traffic increases. At the new Grand Central terminal there will be an entirely separate sub-urban concourse on a level below the main concourse.

Another important improvement introduced at the Pennsylvania terminal and adopted at the Grand Central, is that of raising the track platforms level with the floors of cars instead of only about nine inches above the top of the rail. The former practice has obtained in England, the latter heretofore in the United States. The additional expenditure required on the main level alone of the Grand Central terminal by the higher platform was one hundred thousand dollars. It also made necessary changes in all cars running into the station. But the high platform, saving a climb of three feet and three inches, is a convenience to the passengers. And it is of value to the railway. The New York Central has found that it reduces the average time required for



Station of the Oregon-Washington Railroad and Navigation Company, Seattle, Washington.



Station of the Oregon-Washington Railroad and Navigation Company, Seattle, Washington. The waiting-room.

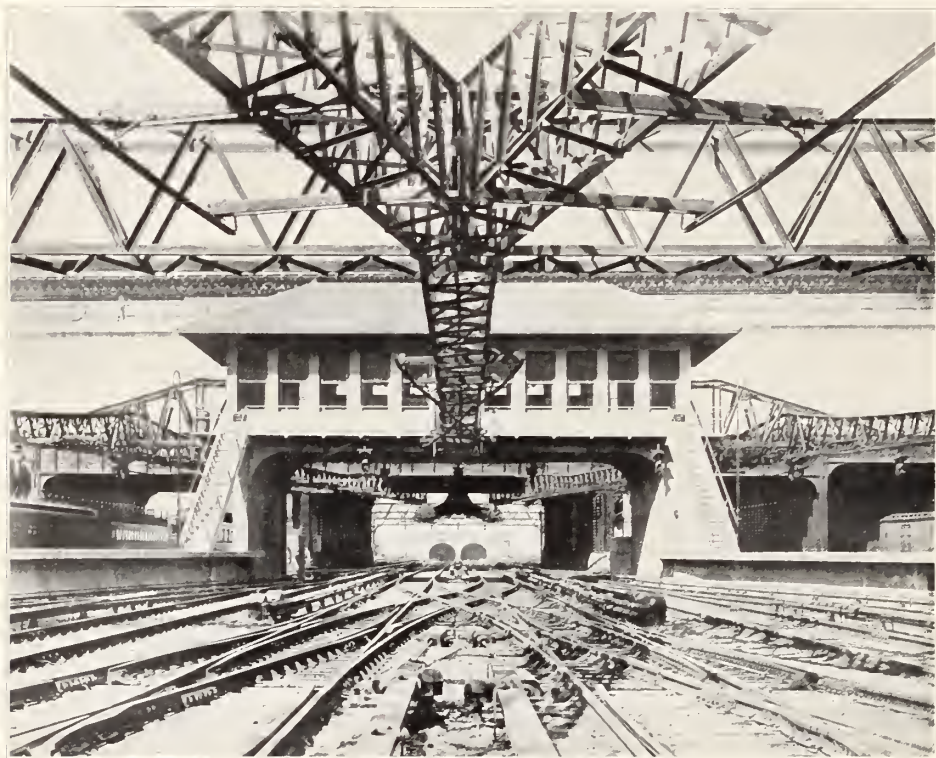


Station of the Atchison, Topeka and Santa Fe Railway at Albuquerque, New Mexico.

unloading a suburban train from over a minute to forty seconds, or thirty-five per cent. Where hundreds of trains arrive daily this is important.

A most prominent feature of the older terminals that is disappearing is the high, vaulted train shed in which smoke and gas accumulate to the discomfort of passengers, and which in hot weather is one of

Central Station in a subway, but here there are two train levels, one below the other, the upper devoted to through and the lower to suburban business; and the trains on the one will be operated directly beneath and twenty-seven feet below the trains on the other. A single monumental head house will serve both levels. The Pennsylvania runs its trains straight



Pennsylvania Station, New York.

The signal and switch tower in the yard at the west end of the station, showing overhead rails which supplement the third rail on the ground for carrying over switches. Entrance to the tunnels under Hudson River can be seen in the middle distance.

the hottest of all hot places. Electricity, where introduced, makes the high train shed unnecessary. The Pennsylvania's terminal has three levels. On the street level are the entrances, the chief of which is a long arcade lined with shops; on the intermediate level are the great concourse, the main waiting-room, the retiring-rooms for men and women, and the ticket offices; and the tracks are on the third level, thirty-six feet below the street. In other words, the station building is its own train shed. Trains likewise enter the Grand

through under the station, thence through the tunnel under the East River, and into the Sunnyside yard on Long Island, where they are cleaned, restocked, and prepared for another trip, while trains entering the Grand Central Station, after unloading their passengers at the incoming station, will run around on loops to the storage tracks on the easterly side of the coach yard, which, unlike that of the Pennsylvania, will be in the heart—or underneath the heart—of Manhattan.

It is not merely from electrified ter-

minals that the high train shed is disappearing. The Delaware, Lackawanna and Western recently built at Hoboken, just across the Hudson from New York, a large and handsome terminal to handle its New York business. It introduced there a train shed, invented by its chief engineer, whose top was barely higher than that of the locomotive smoke-stacks, and which was slotted just over the stacks to emit smoke and gas. This design, so much simpler than the old, has been adopted at several terminals, notably that of the Chicago and North Western, whose train shed is the largest of this type yet built, and at the Kansas City Station, now under erection. The protection afforded to passengers from the weather is complete; yet smoke, soot, and gases are carried away.

The needs of through and suburban passengers are widely different. This, where both have to be handled, complicates terminal design. The simple, but imperative, requirements of the commuter, with a newspaper under one arm and a package of garden seeds under the other, are satisfied when he has an ample concourse through which he can race to a train whose schedule he knows to a second. He buys a commutation ticket once or twice a month; he has no bag-



Pennsylvania Station, New York. The arcade, a continuation of Thirty-second Street. It is flanked by shops and leads to the main waiting-room.



Pennsylvania Station, New York. The dining-room.



Pennsylvania Station, New York. The kitchen.



The approved design of the new Kansas City Union terminal, now under construction.

gage to carry or check; and, if the railway will furnish him the means of getting home to dinner comfortably and on time, he will be pretty well pleased. But the railway man knows that if a single suburban train is late on a single evening the railway management will be eviscerated at twilight in the bosom of many commuting families. Therefore, if you shall note two trains racing for a cross-over, one a splendid limited pulled by a leviathan Pacific locomotive, and equipped with all the modern luxuries of maid, valet, barber, bath, and music-box, and the other a humble suburban train hauled by an engine of the "teakettle" type, you shall see the Pacific slow up and give the sprinting teakettle the right-of-way.

While the number of suburban is some-

times much greater than the number of through passengers using a terminal, the large station buildings are designed and equipped chiefly to minister to the through passengers, whose needs are numerous and complex. Each must buy a ticket, and even in large cities, where ticket offices are sprinkled everywhere, about one-half of all through tickets are sold at the stations. Therefore, large ticket offices, with as many as thirty or forty windows, have to be provided. The through passenger usually carries hand baggage and often checks a trunk, and for him there must be a parcel-room and large baggage-rooms. The railways of Europe make regular charges for hauling baggage, just as for freight or express. The railways of the United States carry free a maximum

of one hundred and fifty pounds for each person. This causes the baggage traffic here to be very heavy. The number of pieces checked through the Pennsylvania Station at New York last year was one million five hundred and twenty thousand, or four thousand two hundred a day; through the Boston South Station, one million eight hundred and thirty-two thousand five hundred and ninety-three, or over five thousand per day; through the Kansas City Union Station,



Union Station at Saint Louis.

Built some years ago, this is still one of the greatest terminal stations in the country.

two million two hundred thousand, or over six thousand a day. While the Kansas City Station handled only two-fifths as many passengers as the Pennsylvania Station, and only one-ninth as many as the South Station, it handled more baggage than either. This was because, while the large Eastern stations handled millions of commuters, practically all using the Kansas City Station were through passengers, many of whom changed trains; and it illustrates the difference between the requirements on stations handling different kinds of business. In modern terminals two large baggage-rooms are provided, one for in-bound, the other for out-bound traffic. They are usually on a level below the waiting-room and train shed, baggage being transferred to and from trains by elevators opening through the train shed floor, this avoiding trucking on train shed platforms, and incommoding passengers.

Many through passengers arrive at the station a considerable time before their trains leave; many transfer there from one train to another; and it is chiefly for them that large waiting-rooms are provided. The Pennsylvania Station at New York has no seats at all in its main waiting-room, although it has them in its smaller waiting-rooms. The North Western in the main waiting-room of its Chicago terminal went to the opposite extreme, and not only has seats, but has them numbered so that persons can more easily find each other.

Chiefly for through passengers, most American terminals provide lunch-rooms and large and handsome dining-rooms; the dining-room in the Washington terminal is the largest in the capital. This is in marked contrast to the English practice. In a country of such short distances as England, the traffic is much like our suburban business, and the English terminals, although suited to their business, and some of them very large, are hardly

more than big sheds where passengers can transfer between trains and cabs and street-cars. However, they usually have connected with them large, and sometimes fine, hotels owned by the railways. The Canadian Pacific has followed the English practice in its Place Viger station and hotel in Montreal; while at its large Windsor Street terminal in the same city there is no hotel. The French terminals are



Union Station, Seattle, Washington.

somewhat more, the German terminals somewhat more, like the American terminals in point of accommodations as well as architectural treatment than the English stations.

The North Western in its Chicago terminal made some interesting departures. Chiefly for its large commuter traffic it provided retiring-rooms with baths; and a suburbanite, coming in from his home in the morning, can check his suit case at the station, and in the evening return there, bathe, get a shave, change into his evening clothes, meet his wife, dine in the big dining-room, and go directly to the theatre. The only hotel or club accommodation not provided is a place to sleep. On the basement, or street level, floor are special quarters for emigrants where they can wait between trains, eat their lunches, and, if they like, wash and dry laundry with tubs and driers especially provided for their use. There are also bath-rooms, with maids in charge, connected with the



Approved design for the new station at New Haven, Connecticut. New York, New Haven and Hartford Railway.

women's waiting-room; and there is in the station even a small hospital where emergency cases can be treated.

The nature of the traffic influences even the number of approach and station tracks required. The through trains have more cars for the passengers they haul than the suburban. Because through passengers do not know so well as commuters the exact time when their trains leave, are less accustomed to using the terminal, and always have baggage, the through trains must also be backed into the train shed longer before their departure. On the other hand, the greater number of trains constantly rushing in and out of a station having a heavy commutation traffic necessitates a large proportionate number of approach tracks. Therefore, while the South Station at Boston, with its immense suburban traffic, has eight approach tracks and twenty-eight station tracks, the Union Station at Saint Louis, with its large through business, has only six approach tracks, but thirty-two station tracks. The Union Station at Washington, which handles mainly through business, has six approach tracks and thirty-three station tracks, while the North Western station at Chicago, which handles mainly suburban business, has six approach tracks and only sixteen station tracks. The new Grand Central Station

in New York, with twenty-nine station tracks on the main level and seventeen on the suburban level, a total of forty-six, will have more station tracks than any other terminal in this country.

At the outer end of the train shed the station tracks begin to converge into a throat composed of the two to eight approach tracks; and this throat, both for facility and safety of train movement, is really the vitally important part of the terminal. Here is located the interlocking plant, the brain of the terminal, governing the movement of all trains as the human brain governs bodily acts. Ordinarily there is but one interlocking plan at the throat, but in the Grand Central Station at New York there will be one for each track level; and the one on the lower level will be the largest ever built. In the early days of interlocking the man in the tower watched the trains and merely gave signals for switchmen to set the switches. In modern terminals, having hundreds, and even thousands, of train movements daily, most of which occur very rapidly in certain rush hours, such a mode of operation is not practical. The train director in the large interlocking tower seldom sees trains or tracks at all. In the tower before him is a ground glass on which the entire terminal yard layout is depicted. Part of it is dark, part light.

The former indicates the occupied, the latter the unoccupied, tracks. When a train is approaching the throat to leave or enter, the train director is notified either by telephone or code signal, and then, on a word from him, an operator pulls levers which so set the switches as to open the track the train is to use, and lock all other tracks on which conflicting train movements could be made, and also display signals which indicate to the engineman that he may proceed. The interlocking plant is designed to permit trains to move between any approach and any station track; and switches and signals are so interlocked as to allow the maximum number of safe movements simultaneously. The interlocking plant of the Saint Louis Union terminal can guide the movements of thirty-two trains at the same moment.

The development of power interlocking has contributed more toward making practicable many train operations in a restricted area in a short time than all other things. Without it terminal yards would need to be much larger and employ many more men, and even then operation would be unsafe. On the capacity of the interlocking plant depends the capacity of the throat of the terminal; on the capacity of the throat depends the capacity of the terminal; on the capacity of the terminal depends the capacity of the railway; so it is not far from true to say that on the terminal interlocking plant depends the capacity of the railway. The almost uncanny performance of a large interlocking plant—whether by day when its many fingers can be seen silently and deftly manipulating the innumerable switches and semaphores, or by night, when its bridge, covered with variegated, blinking, changing lights, looms out of the darkness—makes it the most human and fascinating of transportation mechanisms.

The construction work on a large terminal (especially when, as in the case of that of the Pennsylvania in New York, it is necessary to build tunnels and electrify in connection with it, or when, as in the case of the Grand Central terminal, the site of the old is also that of the new station, and traffic must move without interruption), is of unsurpassed magnitude and difficulty. One of the largest parts of it is the excavation. There were re-

moved from the site of the Pennsylvania terminal two million two hundred thousand cubic yards of earth and rock. When the Grand Central terminal is finished there will have been taken from its site three million one hundred thousand cubic yards of materials. This piled up in Fifth Avenue in New York would make a ridge fifty feet high from Twenty-third Street to One Hundred and Tenth Street. The blasts of dynamite weigh from seventy-five to five hundred pounds, and up to the time this article was written there had been used seven hundred and fifty thousand pounds. One morning a small piece of rock at the bottom of a cut was shot, and a rock weighing one hundred thousand pounds unexpectedly fell from under the track where the outbound locomotives were kept lined up. The operating department got the engines out at the north end of the tracks and kept the traffic going without serious delay. That, in spite of incidents such as this, trains have been kept moving in and out of the Grand Central Station throughout the construction operations without troublesome interruptions is proof of the highest engineering and operating care and skill.

The study of large modern passenger terminals suggests, among others, two very interesting questions. One is as to whether so much money ought to be spent on the station buildings. The station building of the Chicago and North Western terminal cost six million three hundred and eighty thousand dollars. The station building of the Pennsylvania in New York cost ten million dollars, including nothing for excavation and retaining walls. The station building of the Kansas City terminal probably will cost five million dollars. The station building and north approach of the Washington terminal cost thirteen million dollars, of which probably eight or nine millions was for the station building. These are large figures. The needs of travellers, merely as travellers, could be met with much less expenditure. Even where steam power is used additional stories for offices can be erected over the station proper from which a large revenue can be derived; and, as the New York Central is showing, where electricity is used, the space over the tracks—amounting in the case of the

Grand Central terminal to over twenty-five acres—can also be very profitably devoted to commercial purposes. Such station buildings as that of the Pennsylvania Railroad in New York, of the Union terminal of Washington, of the North Western at Chicago, and of the Union terminal under erection at Kansas City, occupying large areas of valuable ground, utilizing much less space above the station proper for railway and other commercial offices than might be devoted to them, and in which the most costly materials are used, are designed and built as much for æsthetic as for utilitarian reasons; and their artistic and monumental character both greatly increases their cost, thus adding to fixed charges, and reduces their earning capacity. Whether one will favor the artistic or utilitarian design will depend on how his tastes run. The economist condemns these magnificent buildings on the ground that they involve economic waste—which cannot be controverted. The artist and art lover defend them on the ground that they delight the eye and improve the taste of all the millions who use them—which is equally incontrovertible. The expenditure on the station buildings, while large absolutely, is a relatively small part of the total cost of large terminals, and therefore, any economy made in their construction would not materially reduce the total cost in rendering the terminal service.

The second question referred to is whether such large terminals ought to be built at all. In London there are about twenty stations. Certainly the convenience of most persons in going to and from trains, especially when, as in London, the railway stations are connected by underground lines, is better served where there are so many stations than where there is but one or a few. Therefore, some railway men who have given much attention to the subject believe that future development will be along the line of the construction of more and smaller terminals located in various parts of a city and connected by subways. Perhaps when all railway terminals are electrified the roads will run their own trains through such subways and make each of several stations a union station, so that, regardless of where a traveller lives, he can go to a station located conveniently for him and catch a train for any destination.

Whether the station buildings of the future shall be more or less beautiful and monumental than the new ones now being erected, whether the number of stations in each city shall be few or many, the cost of providing for transportation into and out of our large cities, already very great, seems sure to grow more and more. The total cost of the Washington terminal was about twenty million dollars. The total cost of the Kansas City terminal will be forty million dollars. As we have seen, the cost of the North Western terminal was twenty-four million dollars; that of the Pennsylvania Railroad, one hundred and fifteen million dollars; and that of the New York Central, one hundred and fifty million dollars. The average capitalization per mile of the railways of the United States is sixty-two thousand six hundred and fifty-seven dollars. If we assume this represents their cost, then the cost of these five terminals is equal to the cost of an average railway extending from New York to San Francisco, and thence back to Cincinnati. The fixed charges, taxes, and operating expenses of one of the largest terminals for each train run in or out of it are nine dollars and nine cents; for another eleven dollars and fifty-five cents, for still another, fourteen dollars and thirty-five cents; and for a fourth, eighteen dollars and forty-five cents. These figures may not on first thought seem large. A little consideration will show they really are very large. The earnings from running a passenger train one mile in the United States average but one dollar and thirty cents. On this basis a train leaving one of these terminals must run from seven to fourteen miles before it earns enough to pay the mere terminal expense involved in operating it. This is as far as many suburban trains ever run. It is hard, or impossible, on any basis of computation, to show that the railways earn any profit on most of their big terminals. But, whatever the cost of the terminal service, it is a service that must be rendered; therefore, the money to pay for the big terminals must be, and is being, found; and the improvement in the way in which the terminal service is being rendered is one of the most pronounced features of contemporary transportation in the United States.



Drawn by Thornton Oakley.

South Station, Boston. Looking out from the station shed at signal bridge and lights.



